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**SITE ASSESSMENT REPORT  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS  
TDD: S05-9901-004  
PAN: 059J0401SIXX  
CERCLIS ID: ILD069498186**

**March 31, 1999**

**Prepared for:**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Emergency Response Section  
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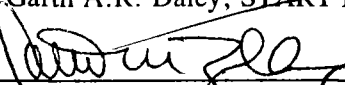
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## **1. Introduction**

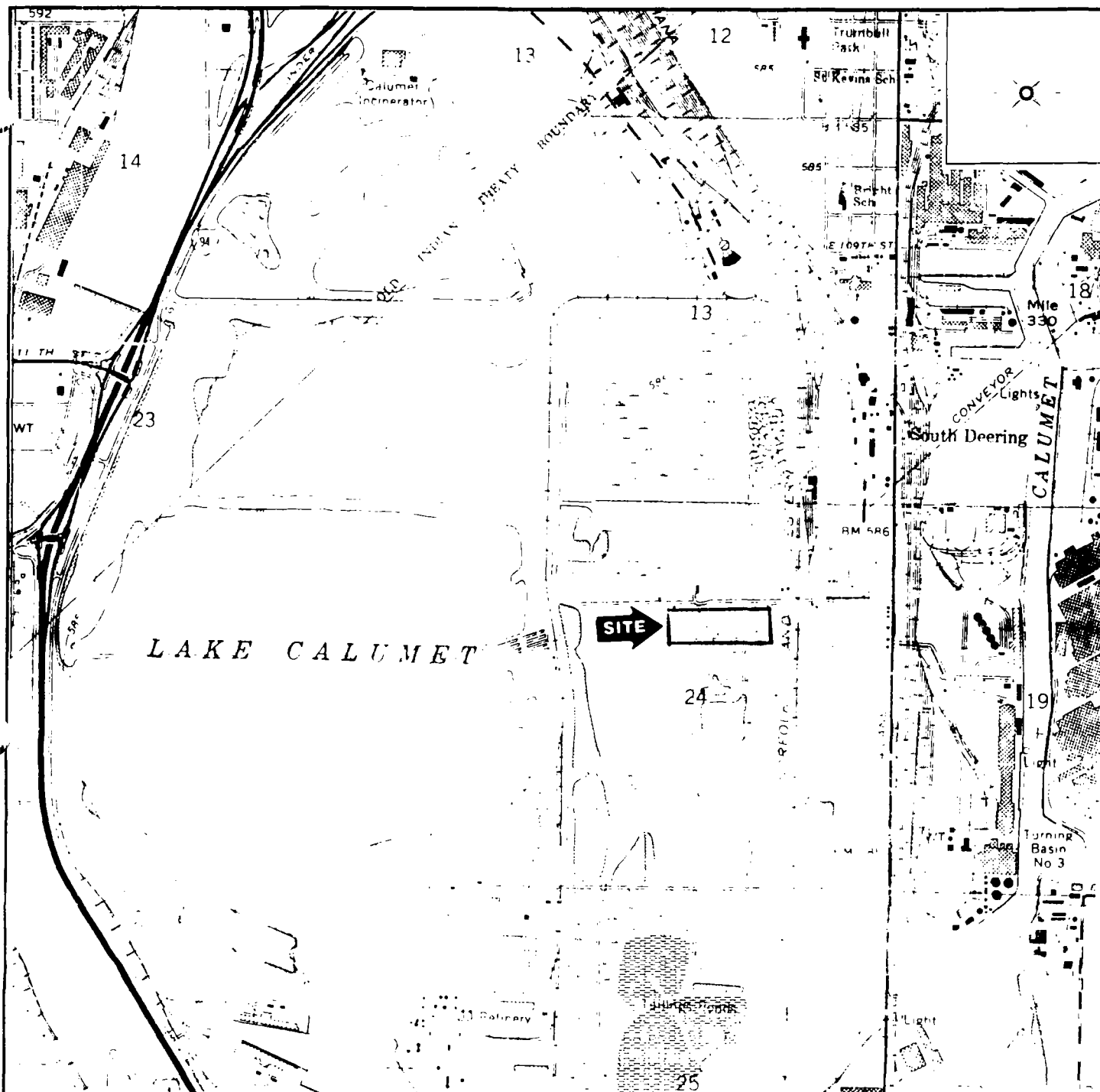
The Emergency Response Branch (ERB) of the United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) to generate a site assessment report for the Paxton Landfill (Paxton) site under Technical Direction Document (TDD) S05-9901-004. START activities included reviewing available site data; evaluating any threats to human health and the environment; and making recommendations to U.S. EPA as to the potential need for a removal action, further investigation, or other appropriate action.

START reviewed historical information from U.S. EPA records compiled for the Paxton site. START also reviewed data generated by Patrick Engineering, Inc. of Springfield, Illinois (PEI), for an evaluation of site conditions on behalf of the Illinois Environmental Protection Agency (IEPA). After reviewing the available site information, START evaluated site conditions based on these data to determine the potential threat to human health and the environment posed by the Paxton site. It should again be noted that this site assessment report was prepared using only historical and file information. No on site evaluation or sample collection was performed by START for the generation of this report.

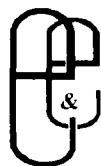
## **2. Site Background**

The Paxton Landfill site is a partially fenced, 117-acre landfill facility located at 12201 South Oglesby Street in the City of Chicago, Cook County, Illinois. Currently, no landfilling activities are in progress at the site. However, activities related to an unpermitted leachate recirculation operation and maintenance of intermediate cover slopes are ongoing at the site (Black & Veatch Waste Science, Inc. [BVWS] 1995). The Paxton site is owned by American Bank land trust # 33832. The Paxton Land Fill Corporation (Paxton Corp.) was originally listed as the sole beneficiary of this trust, but was replaced by Stryker International in 1979. The Paxton site is located in the NW  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of Section 24, Township 37 North, Range 14 East (NE  $\frac{1}{4}$ , NW  $\frac{1}{4}$ , S24, T37N, R14E), and has geographic coordinates of latitude 41°40'52" N, longitude 87°34'08" W (Figure 2-1). The Paxton site is bordered by Stony Island Avenue to the west; by the Waste Management, Inc. owned Interlake property to the north; by a Norfolk & Western railroad track to the east; by Land and Lakes # 3 Landfill to the southwest; and by the U.S. Drums facility, the Alburn incinerator and open fields to the southeast (Figure 2-2).

Three separate facilities are grouped under the State of Illinois site identification number ILD096949816 as the Paxton site (Figure 2-3). The components of the Paxton site are the Paxton I landfill (Paxton I); the Paxton II landfill (Paxton II); and the LHL landfills (LHL). Other Illinois identification numbers associated with the site are ILD981535669, which was assigned to Paxton II, parcel II, and ILD981535651, which was assigned to parcels I and III of the Paxton II site (E & E 1986). For the purposes of permitting by IEPA, Bureau of Land, the Paxton site is also referenced by identification number LPC 0316000033. The Paxton site is located in a highly industrialized area, with the closest residence located approximately 500 feet northeast of the site. Groundwater flow beneath the Paxton site is believed to flow to the west and Lake Calumet (Walter Flood & Company, Inc. [Flood] 1976). Surface water runoff from the site also discharges to Lake Calumet, which is located less than 0.5 mile west of the Paxton site. Lake Calumet drains into the Little Calumet River, then the



Quadrangle Location



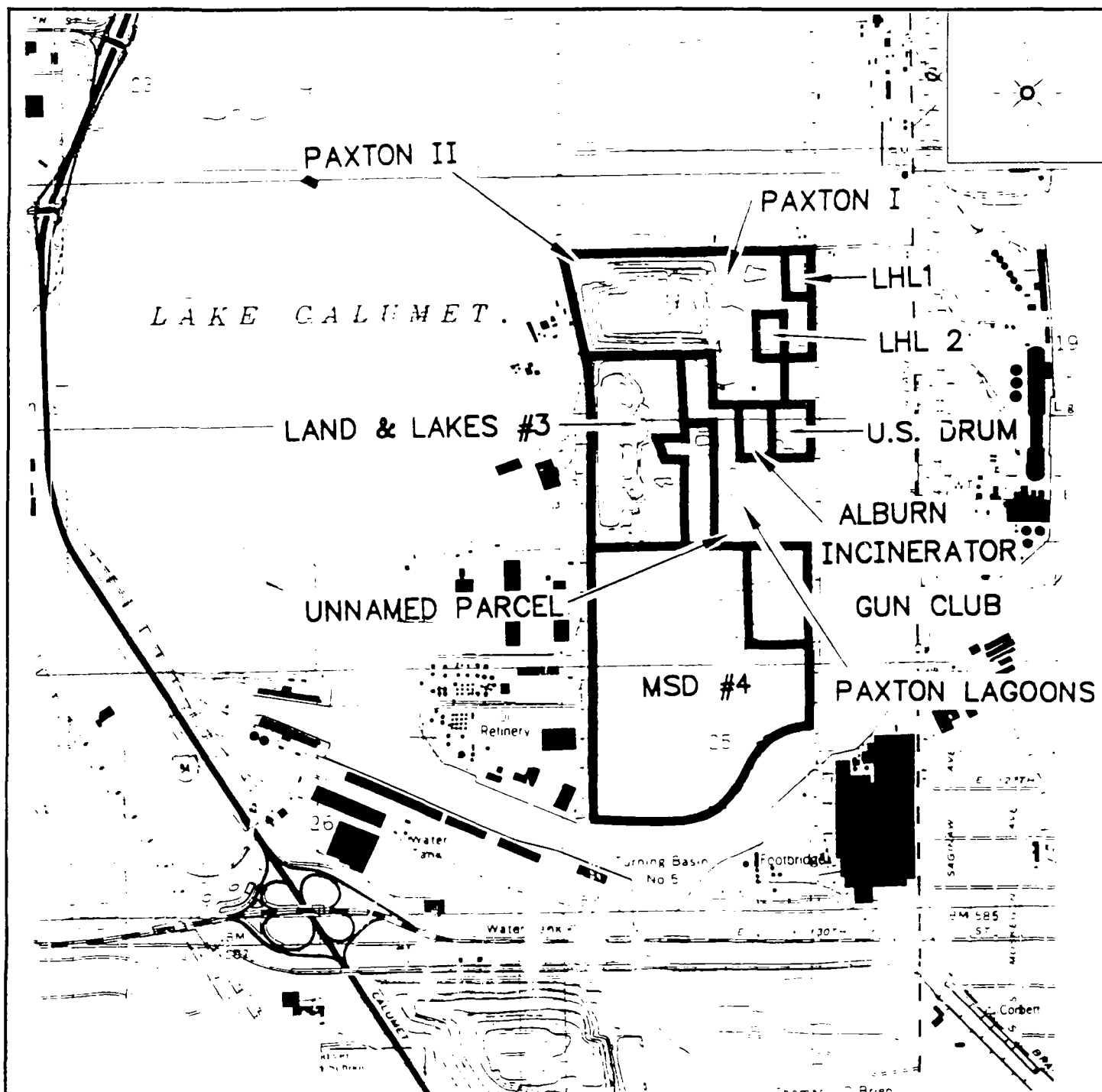
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TITLE		FIGURE	
Site Location Map		2-1	
SITE		SCALE	
Paxton Landfill		1:24,000	
CITY	STATE	TDD	
Chicago	Illinois	S05-9901-004	
SOURCE		DATE	
USGS Topographic Map 7.5 Minute Series - Lake Calumet ILL.-IND. Quadrangle		1965	
		REVISED	
		1973	



# Legend

— Site boundary



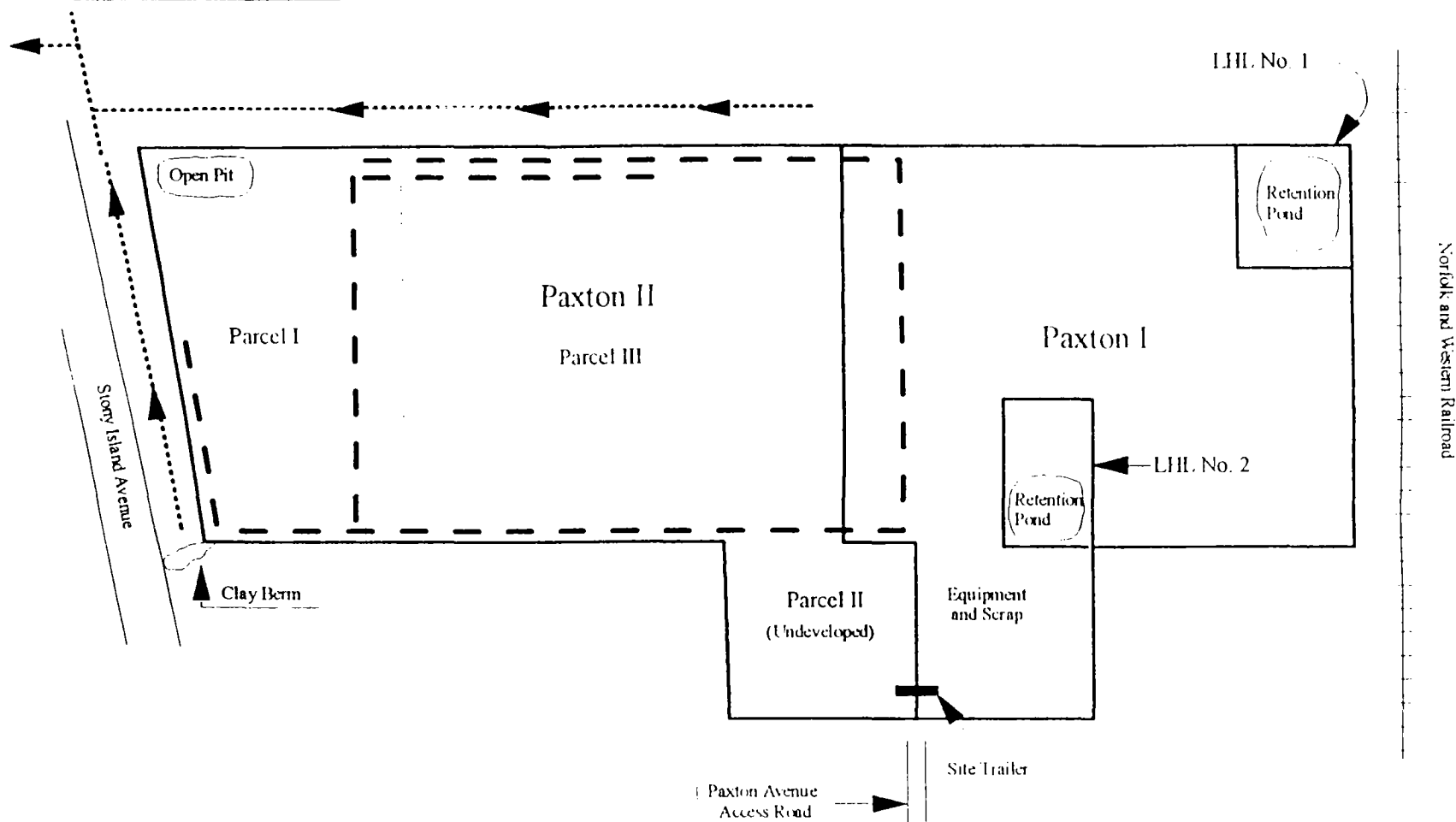
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TITLE	Area Features Map	FIGURE	2-2
SITE	Paxton Landfill	SCALE	1:24,000
CITY	Chicago	STATE	Illinois
SOURCE	Phase I Ecological Reclamation Study, Lake Calumet Cluster Site, Roy F. Weston, Inc	TDU	S05-9901-004
		DATE	1999
		REVISED	



### Legend

	Landfill boundary		Clay cutoff wall
	Drainage ditch with flow direction		Parcel boundary



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Title	Site Features Map	Figure	2-3
Site	Paxton Landfill	Scale	Not to scale
City	Chicago	State	Illinois
Source	Expanded Site Inspection, Black & Veatch Waste Science, Inc.	TDD	S05-9901-004
		Date	1999



Calumet Sag Channel. The Illinois Department of Conservation (IDOC) has classified Lake Calumet, the Little Calumet River and the Calumet Sag Channel as fisheries (BVWS 1995).

Documented landfilling activities at the Paxton site began in 1970 at the Paxton I site, even though landfilling allegedly has taken place in the vicinity of the site since the 1930s (CH2M Hill/E & E 1986). The Paxton I site began operating in 1970 before obtaining an operating permit from IEPA, which notified the site of the violation on January 21, 1971. After Paxton Corp. submitted the required permit application, IEPA issued permit # 1971-23 to develop and operate a 47.5-acre solid waste facility on June 28, 1971. One specific permit condition for the site called for prior IEPA approval before acceptance of any liquid wastes at the Paxton I site. On November 3, 1972, IEPA subsequently issued permit # 1972-13 to Paxton Corp. authorizing the Paxton I site to accept select liquid wastes after meeting specific conditions. These conditions included having an IEPA approved groundwater monitoring system installed within 120 days of receiving the permit, and submitting background groundwater analytical data to IEPA by July 6, 1973. These and other conditions were not complied with. Beginning on October 5, 1973, IEPA notified the Paxton I site of ongoing failures to comply with permit-specified operating procedures, including having inadequate daily and intermediate cover, spreading and compacting refuse downhill, and having ponded surface water on site. The Paxton I site remained operational until 1976, when the permitted capacity of the site was exhausted. The Paxton I site was constructed using a linear trench method. Disposal trenches at the site were constructed by excavating trenches approximately 150 feet wide to depths of approximately 40 feet below ground surface (BGS), or a layer of clay was encountered. The sidewalls of the trenches were then sealed off with clay to minimize groundwater infiltration. During its operation, the Paxton I site accepted general refuse, sludges, liquid wastes, industrial wastes, and wastes with hazardous constituents. The landfilled material at the Paxton I site is covered with 20 to 30 feet of soil cover, bringing the landfill elevation to existing grade (CH2M Hill/E & E 1986).

After the Paxton I site was filled, Paxton Corp. began unpermitted landfilling activities at what would become known as the Paxton II site. IEPA issued several warnings to Paxton Corp. throughout 1976, beginning on January 8, 1976, regarding these unpermitted activities. Paxton Corp. contracted Flood to perform a geological investigation at the site to obtain information for the site's permit application (Flood 1976). This investigation found that geology for the Paxton II site is comprised of fill material above glacial deposits. As a means of determining the stratigraphy beneath the Paxton II site, Flood drilled 5 borings around the site at locations that were selected by Paxton Corp. From these

borings, it was determined that the overlying fill material consisted of sand; cinders; building debris, including bricks, glass, and wood; a black, clayey loam; and clay mixed with cinders. The fill layer ranges in thickness from 5 to 10 feet, and in density from loosely packed to medium dense. Two types of geological material were found beneath the Paxton II site between the fill material and bedrock; Post-glacial Lake Bottom Sediments and Glacial Till. A layer of material described as Post-glacial Lake Sediments is typically first encountered at depths of 10 to 21 feet BGS, and is typically between 10 and 15 feet thick. The layer is comprised of fine grained sands with traces of silt, and often is either intermingled with or overlain by a layer of silty clay. Below this layer are 2 types of glacial tills. The first till layer is called the Tinley Moraine, and is a silty clay soil that is typically first encountered at depths of 10 to 21 feet BGS, and extends to 25 to 40 feet BGS. A complex layer of clayey silt or silty clay soils forms the second till layer, which is typically first encountered at depths of 30 to 40 feet BGS, and extends at least to the bottom of the deepest boring (approximately 70 feet BGS). This layer is considered to be a part of the Valparaiso Morainic System, and is called the Valparaiso Till (Flood 1976).

In April 1976, IEPA secured an injunction against Paxton Corp. The injunction sought to stop the unpermitted landfilling activities that were taking place west of the Paxton I site (CH2M Hill/E & E 1986).

On January 27, 1977, Paxton Corp. submitted a permit application for the development and operation of the Paxton II site. This application was determined by IEPA to be incomplete, and was denied on February 1, 1977. On June 22, 1977, IEPA filed a complaint with the Illinois Pollution Control Board alleging that Paxton Corp. was in violation of permit requirements for the Paxton I site by conducting unpermitted landfilling in the area west of the site. The Paxton II site continued unpermitted operations until 1978, when IEPA obtained an injunction forcing the site to temporarily suspend operations until a permit was received. IEPA issued permits # 1978-10-DE/OP and 1978-11-DE/OP to Paxton Corp. for the development and operation of a 58-acre solid waste disposal facility. These permits divided the Paxton II site into three developmental parcels. Parcels I and II of the Paxton II site were to be constructed and operated under the conditions of IEPA permit # 1978-10-DE/OP, which required the construction of double-lined waste disposal cells (CH2M Hill/E & E 1986). Paxton II, parcel II is a 10-acre area which was not developed for landfilling. The western half of Paxton II, parcel II (5 acres) was later sold, while the eastern half was never developed for landfilling. Parcel III of the Paxton II site is the portion of the site that was filled prior to receipt of the permits.

IEPA permit # 1978-11-DE/OP did not authorize additional landfilling in this portion of the Paxton II site, but required that a clay, cut-off wall be constructed around the area to prevent the migration of leachate between the Paxton I and Paxton II sites. This clay cutoff wall was constructed around the perimeter of Paxton II, parcel III from 1978 to 1984. The cutoff wall was constructed by excavating a trench at least 10 feet wide to a depth of between 30 and 40 feet, then backfilling it with clay. Construction of the wall was to be done so that the cutoff wall was keyed at least 2 feet into the clay barrier at the bottom of the landfill. Except for a 600 foot section along the south boundary, the construction of the cutoff wall was certified by Andrews Environmental Engineering, Inc. as complying with the permit conditions. IEPA personnel periodically observed construction activities during site inspections. A second cut-off wall was built along the northern boundary of Paxton II, parcel III after groundwater contamination was discovered through the IEPA quarterly monitoring program for the Paxton site (IEPA 1980).

Landfilling activities were suspended at the Paxton II site when IEPA obtained a Preliminary Injunction against Paxton Corp. on July 24, 1978, for non-compliant development practices at the site. This injunction closed the site for 45 days. As a result of the second injunction, each parcel was further sub-divided into trenches and segments with IEPA approval required for the construction of each component. Parcel I was initially divided into trenches A, B and C. Trenches A and B were designed to be excavated to depths of 25 feet BGS and 35 feet BGS, respectively (CH2M Hill/E & E 1986). Paxton Corp. submitted an operation permit application on August 8, 1979, for the construction of Parcel I, Trench A, segment 1. This application was denied for construction inadequacies, and was resubmitted by Paxton Corp. in September 1979 (IEPA 1980).

On July 10, 1980, Paxton filed a notification of hazardous waste activity under Section 3010(a) of the Resource Conservation and Recovery Act (RCRA), 42 United States Code (U.S.C.) § 6930(a) to operate a hazardous waste facility (*U.S. v. Paxton Landfill Corporation, et. al.*, 1985). On November 18, 1980, a "Part A" permit application was submitted by Paxton Corp. claiming that the Paxton II site had previously accepted hazardous wastes (IEPA 1986). The application was a proposal to construct and operate a hazardous waste treatment facility, consisting of a distillation column and an incinerator, at the Paxton II site. The information contained in the application was forwarded to U.S. EPA by IEPA, but the site was not formally referred (IEPA 1986). On March 22, 1982, U.S. EPA notified Paxton Corp. that, based the information in the submitted permit application, the Paxton II site met the qualifications for an "interim status" site. U.S. EPA informed Paxton Corp. that the Paxton II site was

required to comply with the applicable federal regulations in Code of Federal Regulations, Title 40, Part 122 (40 CFR § 122), which was later reclassified as Part 270, and 265, as well as any applicable state regulations. Paxton Corp. was informed by U.S. EPA on April 28, 1983, that they were required to submit a "Part B" permit application for the site by October 31, 1983. On August 12, 1983, Paxton Corp. informed U.S. EPA and IEPA that the plans to construct the hazardous waste facility had been abandoned. Paxton also informed IEPA and U.S. EPA that the Paxton II site would not be preparing a "Part B" permit as requested. Paxton Corp. further claimed that the Paxton II site had not accepted any hazardous wastes after November 18, 1980, and did not qualify as a RCRA interim status facility (*U.S. v. Paxton Landfill Corporation, et. al.* 1985). However, documentation exists to dispute that claim. Waste disposal manifests for the site show that after November 19, 1980, the Paxton II site accepted waste materials with hazardous constituents. These wastes include 140 cubic yards (yd<sup>3</sup>) of paint sludge containing chromium and lead; 1,400 gallons of ink rinse water containing lead; 3,500 gallons of tank bottoms containing arsenic and lead; and 16,000 gallons of tank water and sludge bottoms containing arsenic and lead (*U.S. v. Paxton Landfill Corporation, et. al.* 1985).

In 1983, Roy F. Weston (Weston) submitted a closure/post-closure (C/P-C) plan for the Paxton II site; however, IEPA denied the permit application as incomplete. The reason given for rejecting the submitted plan was that a 10-year post-closure monitoring period was proposed, instead of the minimum required period of 30 years (IEPA 1986).

In 1985, the civil action, *U.S. v. Paxton Landfill Corporation, et. al.*, was filed by the United States Attorney General on behalf of U.S. EPA. The action was filed in the U.S. District Court for the Northern District of Illinois under Section 3008(a) of the Solid Waste Disposal Act, as amended by RCRA, 42 U.S.C. § 6928(a). The action was in response to continued operational violations at the Paxton II site, including receiving hazardous wastes without a permit (*U.S. v. Paxton Landfill Corporation, et. al.* 1985).

On March 16, 1987, IEPA received a permit application submitted by Weston on behalf of the Paxton II site to modify the site's groundwater monitoring program. The application was denied by IEPA on the basis that the Paxton II site had failed to submit the certification of compliance required for RCRA hazardous waste facilities. The certification was to demonstrate that the site had a suitable and compliant groundwater monitoring system in place, and that the site had financial assurance mechanisms in place to fund C/P-C site activities. Additionally, the C/P-C plan submitted with the

application included final contours reflecting an unpermitted 50 foot vertical expansion at the site (IEPA 1987).

In 1988, Paxton Corp. contracted Weston to prepare a Site Investigation Report as a component of a permit application. This report was submitted to IEPA in 1989 (BVWS 1995).

Landfilling activities at the Paxton II site ended on April 22, 1992, when police officers from the City of Chicago (Chicago) padlocked the gates to the site (Weston 1998).

The LHL facility is comprised of 2 separate landfills, LHL # 1 and LHL # 2. LHL # 1 is approximately 10 acres in size, and located at the northeast corner of the Paxton I site. The Paxton I site surrounds LHL # 2, which is a 7.5-acre facility. There is little documentation surrounding the wastes dumped at either landfill; however, LHL # 2 was permitted by IEPA to accept general refuse and construction debris, and is alleged to have accepted waste from 1976 through 1978. Landfilling activities began and ended at LHL # 1 during the 1970s. Currently, a retention pond exists within the boundaries of both LHL # 1 and LHL # 2. Both sites have 20 to 30 feet of cover above the buried waste, resulting in the final landfill elevations being at grade (Weston 1998).

### **3. Previous Site Assessment Activities**

Several site inspections and site assessments have been performed at the Paxton site since landfilling activities began in 1970. These inspections and assessments have been conducted by IEPA and Chicago, as well as by environmental contractors on behalf of IEPA, Chicago, and U.S. EPA.

IEPA has conducted routine site inspections at the Paxton site beginning as early as in October 1973. These inspections led to several notifications of violation being issued to the site for various operational issues. IEPA inspections in 1974, 1975, and 1976 cited the facility for having inadequate daily and intermediate cover in the fill area. During the May 1975 IEPA site inspection, it was also noted that liquids from the active landfill trench were being discharged off site without treatment. Other violations noted during IEPA site inspections including ponded water on site, and waste being pushed into standing water within the active landfill trench. File information also documents instances of the Paxton II site accepting liquid wastes, sludges and wastes containing hazardous constituents between April 1976 and July 1978 prior to obtaining an IEPA operating permit for the Paxton II site. IEPA records also report inadequate daily and intermediate cover at the Paxton II site in inspection reports beginning in 1976.

The Paxton site was placed on the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database on April 1, 1979. The component landfills were grouped under the identification number, ILD069498186, which was previously used to identify the Paxton I site. The site was also placed on the RCRA notifiers' list for U.S. EPA Region 5 (BVWS 1995).

A Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Preliminary Assessment (PA) was initiated at the Paxton site by IEPA on March 28, 1984. The December 13, 1993, environmental sample event is considered to be an extension of this PA (BVWS 1995).

In 1988, Weston was contracted by Paxton Corp. to conduct a site investigation at Paxton II. The investigation was completed in four phases, with the final report being submitted to the IEPA in 1989. An electromagnetic survey and three ground penetrating radar surveys were completed during Phase I of the investigation. Four groundwater monitoring wells were installed during Phase II. During Phase III of the investigation, Weston excavated leachate pits, collected leachate and groundwater samples, and completed site surveys. An additional round of groundwater sampling was performed as Phase IV of the Weston site investigation (BVWS 1995).

On February 4, 1993, BVWS was authorized by U.S. EPA to conduct an Expanded Site Inspection (ESI) at the Paxton site. Harza Environmental Services, Inc. (Harza) was contracted by Chicago in 1993 to collect environmental samples at the Paxton site. On December 13, 1993, Harza collected eleven groundwater samples, four soil samples, four surface water samples, nine sediment samples, and three leachate samples at on and off site locations. The analytical results from these samples were reported in the ESI, and the sample event was considered to be the second phase of the March 28, 1984, CERCLA PA conducted by IEPA (BVWS 1995).

On July 1, 1997, IEPA contracted PEI to conduct a series of environmental studies at the Paxton II site. These studies included performing a slope stability analysis, conducting a leachate elevation and characterization study, and investigating landfill cover thickness and integrity. Among the conclusions determined by PEI was that the potential for landfill slope failure exists at the Paxton II site, with the most probable location being the northwest corner of the site. PEI cited elevated leachate levels within the waste mass as a significant contributing factor in the slope stability issue. PEI has collected and analyzed 2 rounds of leachate samples from the Paxton II site.

In January 1999, U.S. EPA tasked START to conduct a review of available site information for the Paxton site, and prepare a Site Assessment Report. This action was prompted by the December 17, 1998, letter from IEPA requesting the assistance of U.S. EPA to minimize an environmental release from the Paxton site. The specific activities discussed in the letter involve the removal and treatment of leachate from the Paxton II site.

#### **4. Historical Analytical Results**

Analytical results or summary of results were located during the site file review for IEPA sample events conducted on August 21, 1985, and February 26, 1987; the two rounds of environmental sampling completed during the Weston 1988 site investigation; and the Harza December 13, 1993, sample event. These data were tabulated and are presented in Appendix A. The maximum groundwater concentrations reported for each sample event and the corresponding sample locations are presented in Appendix B. Groundwater is not used as a source of drinking water for residents in the vicinity of the Paxton site. The groundwater and leachate data were compared to contaminant limits established for the Safe Drinking Water Act (SDWA) in 40 CFR Part 141. Soil and sediment sample results were compared to the Risk Based Concentrations (RBCs) established by U.S. EPA Region 3 for Soil Ingestion at Industrial sites.

For the reviewed groundwater data, there were 14 instances of an inorganic contaminant being detected at a concentration that exceeded the SDWA limit. The applicable analytes include cadmium (maximum concentration of 19.5 micrograms per liter [ $\mu\text{g/L}$ ] compared to 5  $\mu\text{g/L}$  SDWA limit) and lead (maximum 158  $\mu\text{g/L}$  to 15  $\mu\text{g/L}$ ). Similarly, there are 19 reported exceedences of the applicable limits for organic compounds. Benzene (maximum 340  $\mu\text{g/L}$  to 5  $\mu\text{g/L}$ ), benzo(a)pyrene (maximum 10  $\mu\text{g/L}$  to 0.2  $\mu\text{g/L}$ ), 1,2-dichloroethylene (maximum 2,500  $\mu\text{g/L}$  to 100  $\mu\text{g/L}$ ) and toluene (maximum 1,300  $\mu\text{g/L}$  to 1,000  $\mu\text{g/L}$ ) were among these compounds. These data are presented in Appendix A-1.

Analysis of the tabulated leachate data revealed eight instances of reported inorganic concentrations exceeding the SDWA limit. The affected compounds were cadmium (maximum 25.8  $\mu\text{g/L}$  to 5  $\mu\text{g/L}$ ), chromium (maximum 168  $\mu\text{g/L}$  to 100  $\mu\text{g/L}$ ) and lead (maximum 338  $\mu\text{g/L}$  to 15  $\mu\text{g/L}$ ). There were also four instances where the concentration of organic leachate constituents exceeded the corresponding SDWA limit. The compounds involved were benzene (maximum 100

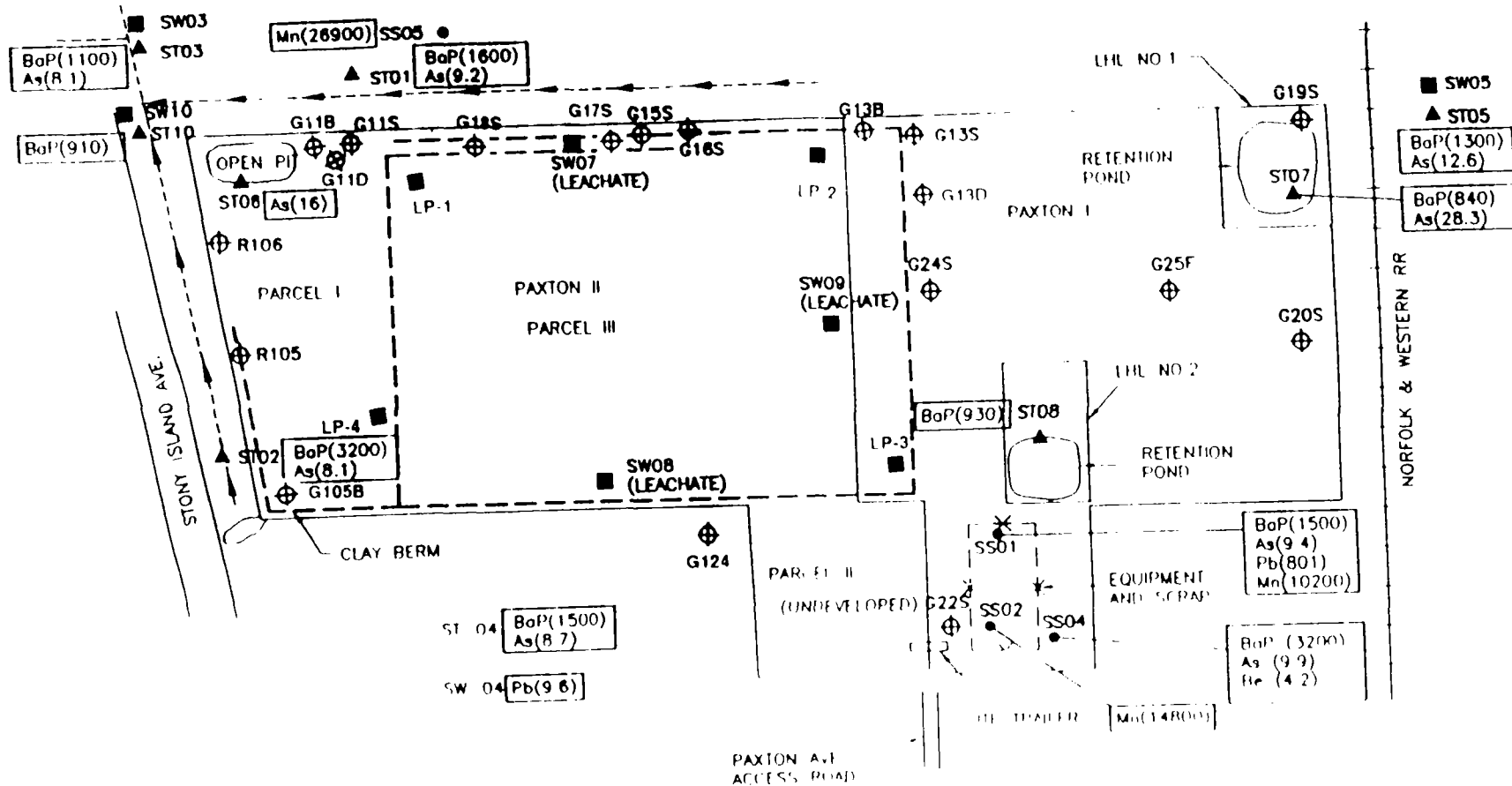


µg/L to 5 µg/L), tetrachloroethene (maximum 28 µg/L to 5 µg/L), and trichloroethene (maximum 10 µg/L to 5 µg/L). These data are presented in Appendix A-2.

There were four exceedances of inorganic contaminants revealed during the review of the analytical results from the collected soil samples. Lead was reported in sample SS01 at 801,000 micrograms per kilogram (µg/kg), which exceeds the RBC value of 400,000 µg/kg. Manganese concentrations for three of the four soil samples (maximum concentration 26,900,000 µg/kg) exceeded the RBC value (10,000,000 µg/kg). No sediment samples were reported as having inorganic concentrations that exceeded the RBCs. Benzo(a)pyrene was detected in seven of the eight sediment samples and one soil sample (maximum concentration 3,200 µg/kg) at concentrations that exceeded the RBC (780 µg/kg). Dibenzo(a,h)anthracene in soil sample SS01 was the only other organic substance that exceeded the corresponding RBC (1,300 µg/kg compared to 780 µg/kg). These data are presented as Appendix A-3.

A map showing the approximate sample locations for the groundwater, leachate, soil, and sediment samples collected during the Weston and Harza sample events is presented as Figure 4-1.

As part of the environmental studies being performed by PEI at the Paxton II site, two rounds of leachate samples were collected and analyzed. These data are presented as Appendix C, and were also compared to SDWA limits. This comparison revealed 36 instances where the reported concentration for an inorganic compound exceeded the corresponding SDWA limit. Among these compounds were arsenic (maximum 576 µg/L to 50 µg/L), chromium (maximum 1,770 µg/L to 100 µg/L), lead (maximum 4,460 µg/L to 15 µg/L) and mercury (maximum 20 µg/L to 2 µg/L). A review of the reported concentrations for organic constituents revealed 26 instances of the SDWA limit being exceeded. Benzene (maximum 460 µg/L to 5 µg/L), total polychlorinated biphenyls (maximum 0.54 µg/L to 0.5 µg/L), and vinyl chloride (maximum 42.1 µg/L to 2 µg/L) are among the compounds where exceedances were noted.



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Region 5

33 North Dearborn Street, Chicago, Illinois 60602

Title	Environmental Sample Location Map	Figure	4-1
Site	Paxton Landfill	Scale	Not to scale
City	Chicago	State	Illinois
Source	Expanded Site Inspection, Black & Veatch Waste Science, Inc.	DDO	S05-9901-004
		Date	1999

## 5. Threats to Human Health and the Environment

Using the available historical file data, START has determined that the Paxton site demonstrates potential physical and chemical threats to human health and the environment. PEI determined that a physical threat existed at the Paxton II site following the completion of the slope stability analysis. The primary chemical threat was confirmed by comparing the available leachate analytical results to SDWA limits. In several instances, historical leachate data was shown to exceed applicable SDWA standards. A review of leachate data generated by PEI demonstrated similar tendencies. Groundwater is not used as a drinking water resource near the Paxton site. However, groundwater flow beneath the Paxton site is towards Lake Calumet, which eventually empties into the Little Calumet River and the Calumet Sag Channel. All three surface water bodies are fisheries. Surface water runoff from the site also drains into Lake Calumet.

Paragraph (b)(2) of Part 300.415 of the NCP lists factors to be considered when determining the appropriateness of a potential removal action at a site. The following discussion presents a summary of those factors for the Paxton site for wastes defined under CERCLA.

- **Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or food chains.** The primary threat at the Paxton II site is from potential slope failure at the northwest corner of the site. In the event of slope failure, leachate is expected to migrate off site, possibly across Stony Island Avenue and into Lake Calumet, a recreational use surface water body located less than 0.5 mile west of the site. Lake Calumet drains into the Little Calumet River, which empties into the Calumet Sag Channel. Lake Calumet, the Little Calumet River and the Calumet Sag Channel are all fisheries. Analytical results for soil, sediment, groundwater and leachate samples collected at the Paxton site revealed levels of organic and inorganic contaminants that exceed applicable U.S. EPA Region 3 RBCs and SDWA limits. The Paxton site is only partially fenced; therefore, site access is not completely restricted.

- **Actual or potential contamination of drinking water or sensitive environments.** The occurrence of a slope failure at the northwest corner of the Paxton II site is likely to result in a significant leachate release which may result in chemical contaminants entering Lake Calumet, the Little Calumet River, and the Calumet Sag Channel. Lake Calumet, the Little Calumet River and the Calumet Sag Channel are all fisheries. As stated previously, leachate samples collected at the site have been shown to contain levels of contaminants that exceed applicable SDWA limits. Several instances of uncontrolled leachate discharges have been documented at the Paxton site during previous IEPA inspections. Runoff from the site may enter site perimeter ditches, which eventually empty into Lake Calumet. Additionally, habitats for 2 federally-listed and 17 state-listed bird species, as well as 3 state-listed plant species are located within 6 miles of the Paxton site. A nearby wetland area is the habitat for the Piping Plover, a federally-listed endangered/threatened bird specie.
- **Weather conditions that may cause pollutants or contaminants to migrate or be released.** The Paxton site is a poorly maintained landfill with documented instances of exposed refuse, off site discharge of contaminated surface water, and unpermitted acceptance of liquid and hazardous wastes. Soil and sediment samples collected at the site during the December 13, 1993, Harza sample event revealed levels of contaminants, including benzo(a)pyrene, and lead, that exceed U.S. EPA Region 3 RBCs. Data collected by PEI at the Paxton II site revealed leachate contaminants, including arsenic, benzene, cadmium and vinyl chloride, which exceed SDWA limits. Runoff from the site may be conveyed by the site's perimeter ditches into Lake Calumet, a recreational use surface water body.

## 6. Conclusions

The Paxton site, located at 12201 South Oglesby Street, Chicago, Cook County, Illinois, is a landfill facility comprised of four individual landfills. Permitted and unpermitted landfilling activities took place at the site from 1970 through April 22, 1992. Current activities at the site include an unpermitted leachate recirculation operation and maintenance activities for the intermediate cover.

Both U.S. EPA and IEPA are currently evaluating the Paxton site to determine if the site poses a threat to human health and the environment. IEPA has contracted PEI to perform several studies at the site, including a slope stability analysis, an evaluation of landfill cover thickness and integrity, and a leachate extraction study. The PEI slope stability analysis has concluded that the potential for slope failure exists at the northwest corner of the Paxton II site. In the event of a slope failure at this location, there would likely be a significant leachate release from the Paxton II site. This release could migrate across Stony Island Avenue and enter Lake Calumet. Lake Calumet discharges into the Little Calumet River, and, eventually, the Calumet Sag Channel. Lake Calumet, the Little Calumet River, and the Calumet Sag Channel are classified as fisheries by IDOC.

The possible remedial actions at the Paxton site include leachate removal from the Paxton II site, installation of a RCRA compliant landfill cover system, and installation of a methane collection system. However, only the leachate removal option would qualify as a time-critical response. PEI has determined that the removal of approximately 24,000,000 gallons of leachate from the Paxton II site would be sufficient to stabilize the slopes, thereby mitigating the likelihood of slope failure. A preliminary cost estimate of \$6.5 million was developed by PEI. However, the results obtained from the leachate extraction study being completed by PEI may result in the modification of the proposed amount. PEI anticipates to have completed the leachate extraction study by May 1, 1999. START has not been requested to develop an alternate cost estimate for the site.

## 7. References

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- Walter Flood & Co., Inc., December 14, 1976, *Soil Investigation No. 7605-0039, Paxton Landfill, 116<sup>th</sup> & Paxton, Chicago, Illinois*, Walter Flood & Co., Inc., Chicago, Illinois.

## **Appendix A**

### **Historical Groundwater, Leachate and Soil/sediment Analytical Results**

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G104 (8/21/85)	G104 (2/26/87)	G104 (1988)	G124 (8/21/85)	G124 (2/26/87)	G124 (1988)	G18S (8/21/85)	G18S (2/26/87)	G17S (8/21/85)	G17S (2/26/87)	G17S (1988)	G12D (8/21/85)
Inorganic Analytes													
Aluminum	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2,000	NA	NA	817	NA	NA	643	NA	NA	NA	NA	739	NA
Beryllium	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	-	NA	NA	3,350	NA	NA	8,800	NA	NA	NA	NA	4,900	NA
Cadmium	5	NA	NA	6.4	NA	NA	11.1	NA	NA	NA	NA	15.7	NA
Calcium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	NA	NA	ND	NA	NA	2.6	NA	NA	NA	NA	78.1	NA
Cobolt	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1,300	NA	NA	30	NA	NA	ND	NA	NA	NA	NA	85.5	NA
Cyanide, Total	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	79	NA
Magnesium	-	NA	NA	138,000	NA	NA	219,000	NA	NA	NA	NA	225,000	NA
Manganese	-	NA	NA	84.4	NA	NA	79.2	NA	NA	NA	NA	2,160	NA
Mercury	2	NA	NA	0.26	NA	NA	ND	NA	NA	NA	NA	ND	NA
Nickel	-	NA	NA	ND	NA	NA	237	NA	NA	NA	NA	314	NA
Potassium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	134	NA
Zinc	-	NA	NA	36	NA	NA	12.8	NA	NA	NA	NA	428	NA



Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G104 (8/21/85)	G104 (2/26/87)	G104 (1988)	G124 (8/21/85)	G124 (2/26/87)	G124 (1988)	G18S (8/21/85)	G18S (2/26/87)	G17S (8/21/85)	G17S (2/26/87)	G17S (1988)	G12D (8/21/85)
Organic Compounds													
1,1,1-Trichloroethane	200	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	44	NA
1,1-Dichloroethane	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
1,2-Dichloroethylene	100	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
1,2-Dichloropropane	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Diethoxyethane	-	20	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	18
1,3,6-Trioxocane	-	ND	ND	NA	ND	20	NA	380	120	120	ND	NA	ND
1,3,9-Trioxocane	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	50	NA	NA
1,3-Dioxolane	-	ND	ND	NA	95	20	NA	140	30	ND	ND	NA	ND
1,4-Dichlorobenzene	75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
2-Butanone	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
2-Ethyl-4-methyl-1,3-dioxolone	-	ND	NA	NA	ND	NA	NA	420	NA	ND	NA	NA	ND
2-Hexanone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-2-propanol	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA
2-Methylnaphthalene	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
2-Methylphenol	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
3-Methyl-2-butanone	-	ND	NA	NA	ND	NA	NA	630	NA	ND	NA	NA	ND
4,4'-DDE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-1,3-dioxolane	-	ND	NA	NA	90	NA	NA	ND	NA	ND	NA	NA	ND
4-Methyl-2-Pentanone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
Acenaphthalene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
Acetone	-	ND	ND	NA	ND	ND	NA	25	ND	ND	ND	NA	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G104 (8/21/85)	G104 (2/26/87)	G104 (1988)	G124 (8/21/85)	G124 (2/26/87)	G124 (1988)	G18S (8/21/85)	G18S (2/26/87)	G17S (8/21/85)	G17S (2/26/87)	G17S (1988)	G12D (8/21/85)
Acetonitrile	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA
Aliphatic acid esters	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA
Aliphatic acids	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Aliphatic alcohols	-	ND	ND	NA	ND	ND	NA	ND	30	ND	ND	NA	ND
Aliphatic hydrocarbons	-	100	50	NA	300	ND	NA	20	800	1,000	ND	NA	ND
Anthracene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	5	ND	ND	ND	90	ND	ND	ND	60	ND	ND	ND	ND
Benzo(a)anthracene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C-3 substituted benzene	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
C-4 substituted benzene	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Chlorobenzene	100	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Chrysene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexanone	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA
Dibenzofuran	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoxymethane	-	ND	ND	NA	400	90	NA	500	100	ND	ND	NA	ND
Di-n-butylphthalate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl ether	-	ND	NA	NA	70	NA	NA	ND	NA	ND	NA	NA	ND
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G104 (8/21/85)	G104 (2/26/87)	G104 (1988)	G124 (8/21/85)	G124 (2/26/87)	G124 (1988)	G18S (8/21/85)	G18S (2/26/87)	G17S (8/21/85)	G17S (2/26/87)	G17S (1988)	G12D (8/21/85)
Flourene	-	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
Indeno(1,2,3-cd)pyrene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Isopropyl ether	-	ND	NA	NA	960	NA	NA	ND	NA	ND	NA	NA	ND
Methoxy aliphatic acid esters	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Methoxymethylethoxy methylethoxy propanol	-	NA	90	NA	NA	ND	NA	NA	33,000	NA	3,600	NA	NA
Methyl cyclopentanol	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA
Methyl dioxolane	-	NA	ND	NA	NA	20	NA	NA	ND	NA	ND	NA	NA
Methyl pentanediol	-	NA	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA
Methyl phenols	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Methylene chloride	-	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Methylethoxy propanol	-	ND	NA	NA	250	NA	NA	7,500	NA	1,000	NA	NA	ND
Methylethoxymethoxy propanol	-	ND	20	NA	750	15	NA	ND	3,200	ND	90	NA	ND
Naphthalene	-	ND	ND	ND	ND	ND	ND	6	ND	7	ND	ND	ND
Other organic compounds	-	60	510	NA	380	750	NA	2,800	6,600	1,900	4,100	NA	ND
Oxepane	-	ND	NA	NA	ND	NA	NA	110	NA	ND	NA	NA	ND
Phenanthrene	-	NA	ND	ND	NA	ND	ND	NA	ND	NA	ND	ND	NA
Phenol	-	ND	NA	ND	ND	NA	ND	ND	NA	ND	NA	ND	ND
Propyl ester	-	NA	ND	NA	NA	240	NA	NA	ND	NA	ND	NA	NA
Pyrene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	NA
Tetrachloroethylene	5	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Tetrahydrofuran	-	ND	ND	NA	620	60	NA	8,400	6,600	4,600	1,900	NA	22
Tetrahydro-2-methyl-2-furanol	-	ND	NA	NA	ND	NA	NA	450	NA	ND	NA	NA	ND
Toluene	1,000	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G104 (8/21/85)	G104 (2/26/87)	G104 (1988)	G124 (8/21/85)	G124 (2/26/87)	G124 (1988)	G18S (8/21/85)	G18S (2/26/87)	G17S (8/21/85)	G17S (2/26/87)	G17S (1988)	G12D (8/21/85)
Trichloroethylene	5	ND	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND
Vinyl acetate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene	10,000	ND	NA	ND	ND	NA	ND	ND	NA	ND	NA	25	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G15S (8/21/85)	G15S (2/26/87)	G15S (12/13/93)	G12S (8/21/85)	G16S (8/21/85)	G16S (2/26/87)	G16S (12/13/93)	R11D (2/26/87)	R11D/G11D (1988)	R11S (2/26/87)	G11S (1988)	G11S (12/13/93)
Inorganic Analytes													
Aluminum	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Antimony	6	NA	NA	ND	NA	NA	NA	32	NA	NA	NA	NA	ND
Arsenic	50	NA	NA	ND	NA	NA	NA	4.2	NA	NA	NA	NA	ND
Barium	2,000	NA	NA	100	NA	NA	NA	560	NA	ND	NA	ND	1,200
Beryllium	4	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Boron	-	NA	NA	NA	NA	NA	NA	NA	NA	2,360	NA	1,590	NA
Cadmium	5	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	7.9	ND
Calcium	-	NA	NA	252,000	NA	NA	NA	32,000	NA	NA	NA	NA	122,000
Chromium	100	NA	NA	ND	NA	NA	NA	38	NA	ND	NA	19	ND
Cobolt	-	NA	NA	ND	NA	NA	NA	36	NA	NA	NA	NA	ND
Copper	1,300	NA	NA	ND	NA	NA	NA	5.4	NA	ND	NA	37	13
Cyanide, Total	200	NA	NA	61	NA	NA	NA	7.7	NA	NA	NA	NA	8.2
Iron	-	NA	NA	ND	NA	NA	NA	2,600	NA	NA	NA	NA	210
Lead	15	NA	NA	ND	NA	NA	NA	6.6	NA	ND	NA	158	3
Magnesium	-	NA	NA	170,000	NA	NA	NA	421,000	NA	7,240	NA	135,000	72,200
Manganese	-	NA	NA	97	NA	NA	NA	20	NA	95	NA	659	659
Mercury	2	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
Nickel	-	NA	NA	ND	NA	NA	NA	470	NA	ND	NA	ND	ND
Potassium	-	NA	NA	33,500	NA	NA	NA	456,000	NA	NA	NA	NA	17,700
Selenium	50	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Silver	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Sodium	-	NA	NA	80,700	NA	NA	NA	2,590,000	NA	NA	NA	NA	76,400
Thallium	2	NA	NA	ND	NA	NA	NA	10	NA	NA	NA	NA	ND
Vanadium	-	NA	NA	ND	NA	NA	NA	29	NA	ND	NA	ND	ND
Zinc	-	NA	NA	56	NA	NA	NA	41	NA	ND	NA	170	240

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G15S (8/21/85)	G15S (2/26/87)	G15S (12/13/93)	G12S (8/21/85)	G16S (8/21/85)	G16S (2/26/87)	G16S (12/13/93)	R11D (2/26/87)	R11D/G11D (1988)	R11S (2/26/87)	G11S (1988)	G11S (12/13/93)
Organic Compounds													
1,1,1-Trichloroethane	200	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	NA
1,1-Dichloroethane	-	ND	NA	ND	230	ND	NA	ND	NA	NA	NA	NA	ND
1,2-Dichloroethylene	100	2,500	NA	ND	1,050	ND	NA	ND	NA	NA	NA	NA	ND
1,2-Dichloropropane	5	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
1,2-Diethoxyethane	-	ND	NA	NA	ND	120	NA	NA	NA	NA	NA	NA	NA
1,3,6-Trioxocane	-	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND	NA	NA
1,3,9-Trioxocane	-	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
1,3-Dioxolane	-	ND	ND	NA	ND	40	ND	NA	ND	NA	ND	NA	NA
1,4-Dichlorobenzene	75	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
2,4-Dimethylphenol	-	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
2-Butanone	-	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
2-Ethyl-4-methyl-1,3-dioxolone	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
2-Methyl-2-propanol	-	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
2-Methylnaphthalene	-	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
2-Methylphenol	-	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
3-Methyl-2-butanone	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
4-Methyl-1,3-dioxolane	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
4-Methylphenol	-	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
Acenaphthalene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Acenaphthene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Acenaphthylene	-	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	NA
Acetone	-	96,000	140	ND	16,000	40	ND	ND	ND	NA	ND	NA	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G15S (8/21/85)	G15S (2/26/87)	G15S (12/13/93)	G12S (8/21/85)	G16S (8/21/85)	G16S (2/26/87)	G16S (12/13/93)	R11D (2/26/87)	R11D/G11D (1988)	R11S (2/26/87)	G11S (1988)	G11S (12/13/93)
Acetonitrile	-	NA	40	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Aliphatic acid esters	-	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Aliphatic acids	-	23,000	NA	NA	270	ND	NA	NA	NA	NA	NA	NA	NA
Aliphatic alcohols	-	330	ND	NA	16,000	ND	ND	NA	ND	NA	ND	NA	NA
Aliphatic hydrocarbons	-	59,000	ND	NA	80	60	ND	NA	ND	NA	560	NA	NA
Anthracene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Benzene	5	40	300	ND	150	ND	ND	5	ND	ND	ND	ND	ND
Benzo(a)anthracene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Benzo(a)pyrene	0.2	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Benzo(b)fluoranthene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Benzo(k)fluoranthene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
bis(2-Ethylhexyl)phthalate	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
C-3 substituted benzene	-	ND	NA	NA	50	ND	NA	NA	NA	NA	NA	NA	NA
C-4 substituted benzene	-	ND	NA	NA	30	ND	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	ND	NA	ND	150	ND	NA	ND	NA	NA	NA	NA	ND
Chrysene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Cyclohexane	-	NA	530	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Dibenzofuran	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Dieldrin	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Diethylphthalate	-	NA	NA	ND	NA	NA	NA	5	NA	NA	NA	NA	ND
Dimethoxymethane	-	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND	NA	NA
Di-n-butylphthalate	-	NA	NA	4	NA	NA	NA	5	NA	NA	NA	NA	6
Ethyl ether	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Fluoranthene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G15S (8/21/85)	G15S (2/26/87)	G15S (12/13/93)	G12S (8/21/85)	G16S (8/21/85)	G16S (2/26/87)	G16S (12/13/93)	R11D (2/26/87)	R11D/G11D (1988)	R11S (2/26/87)	G11S (1988)	G11S (12/13/93)
Flourene	-	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
Indeno(1,2,3-cd)pyrene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Isophorone	-	360	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
Isopropyl ether	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
Methoxy aliphatic acid esters	-	ND	NA	NA	67,000	ND	NA	NA	NA	NA	NA	NA	NA
Methoxymethylethoxy methylethoxy propanol	-	NA	26,000	NA	NA	NA	2,700	NA	ND	NA	ND	NA	NA
Methyl cyclopentanol	-	NA	350	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Methyl dioxolane	-	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Methyl pentanediol	-	NA	250	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Methyl phenols	-	4,800	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	-	1,900	NA	NA	2,300	ND	NA	NA	NA	NA	NA	NA	NA
Methylethoxy propanol	-	ND	NA	NA	380	ND	NA	NA	NA	NA	NA	NA	NA
Methylethoxymethoxy propano	-	ND	1,400	NA	ND	580	50	NA	ND	NA	ND	NA	NA
Naphthalene	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other organic compounds	-	32,000	5,200	NA	7,900	1,600	330	NA	ND	NA	70	NA	NA
Oxepane	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	-	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND
Phenol	-	1,600	NA	ND	830	ND	NA	ND	NA	ND	NA	ND	ND
Propyl ester	-	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA
Pyrene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Styrene	100	NA	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	ND
Tetrachloroethylene	5	ND	NA	NA	30	ND	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	-	9,600	700	NA	ND	720	170	NA	ND	NA	ND	NA	NA
Tetrahydro-2-methyl-2-furanol	-	ND	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	ND	300	ND	1,300	ND	ND	5	ND	ND	ND	ND	ND



Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		G15S (8/21/85)	G15S (2/26/87)	G15S (12/13/93)	G12S (8/21/85)	G16S (8/21/85)	G16S (2/26/87)	G16S (12/13/93)	R11D (2/26/87)	R11D/G11D (1988)	R11S (2/26/87)	G11S (1988)	G11S (12/13/93)
Trichloroethylene	5	ND	NA	NA	200	ND	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND
Xylene	10,000	ND	NA	ND	270	ND	NA	ND	NA	ND	NA	ND	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		R13D (2/26/87)	R13D/G13D (1988)	R13S (1988)	G13S (12/13/93)	R105 (2/26/87)	R105 (1988)	R105 (12/13/93)	R106 (2/26/87)	R106 (12/13/93)	G11B (1988)	G13B (1988)	G105B (1988)
Inorganic Analytes													
Aluminum	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Antimony	6	NA	NA	NA	ND	NA	NA	29	NA	ND	NA	NA	NA
Arsenic	50	NA	NA	NA	5.4	NA	NA	5.8	NA	ND	NA	NA	NA
Barium	2,000	NA	999	511	460	NA	844	590	NA	1,100	1,060	246	383
Beryllium	4	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Boron	-	NA	5,570	6,030	NA	NA	1,700	NA	NA	NA	950	1,140	550
Cadmium	5	NA	20	11	ND	NA	ND	ND	NA	ND	ND	ND	ND
Calcium	-	NA	NA	NA	59,400	NA	NA	53,400	NA	120,000	NA	NA	NA
Chromium	100	NA	ND	37	12	NA	ND	14	NA	ND	110	79.9	40
Cobolt	-	NA	NA	NA	19	NA	NA	13	NA	ND	NA	NA	NA
Copper	1,300	NA	ND	48.1	9.3	NA	ND	6.5	NA	ND	36	ND	29
Cyanide, Total	200	NA	NA	NA	100	NA	NA	51	NA	5.2	NA	NA	NA
Iron	-	NA	NA	NA	720	NA	NA	1,300	NA	220	NA	NA	NA
Lead	15	NA	ND	54	10	NA	19	6.6	NA	ND	13	9	ND
Magnesium	-	NA	277,000	147,000	168,000	NA	97,600	123,000	NA	71,300	20,100	ND	8,230
Manganese	-	NA	233	1,170	140	NA	230	66	NA	250	210	46.3	47
Mercury	2	NA	ND	1.6	ND	NA	ND	ND	NA	ND	0.26	0.62	ND
Nickel	-	NA	92.6	107	100	NA	ND	130	NA	ND	56.1	47.3	ND
Potassium	-	NA	NA	NA	296,000	NA	NA	260,000	NA	17,800	NA	NA	NA
Selenium	50	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Silver	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Sodium	-	NA	NA	NA	1,480,000	NA	NA	1,300,000	NA	77,000	NA	NA	NA
Thallium	2	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Vanadium	-	NA	ND	ND	16	NA	ND	20	NA	ND	ND	ND	ND
Zinc	-	NA	40.4	103	130	NA	42.9	51	NA	42	62.6	30.1	20.3

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		R13D (2/26/87)	R13D/G13D (1988)	R13S (1988)	G13S (12/13/93)	R105 (2/26/87)	R105 (1988)	R105 (12/13/93)	R106 (2/26/87)	R106 (12/13/93)	G11B (1988)	G13B (1988)	G105B (1988)
Organic Compounds													
1,1,1-Trichloroethane	200	NA	ND	ND	NA	NA	8	NA	NA	NA	ND	ND	ND
1,1-Dichloroethane	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
1,2-Dichloroethylene	100	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
1,2-Dichloropropane	5	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
1,2-Diethoxyethane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,6-Trioxocane	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
1,3,9-Trioxocane	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
1,3-Dioxolane	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
1,4-Dichlorobenzene	75	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
2,4-Dimethylphenol	-	NA	ND	970	640	NA	ND	ND	NA	ND	ND	ND	ND
2-Butanone	-	NA	ND	ND	ND	NA	ND	ND	NA	ND	ND	10	ND
2-Ethyl-4-methyl-1,3-dioxolone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
2-Methyl-2-propanol	-	20	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
2-Methylnaphthalene	-	NA	ND	260	590	NA	ND	ND	NA	ND	ND	ND	ND
2-Methylphenol	-	NA	ND	1,400	290	NA	ND	ND	NA	ND	ND	ND	ND
3-Methyl-2-butanone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
4-Methyl-1,3-dioxolane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
4-Methylphenol	-	NA	ND	980	340	NA	ND	ND	NA	ND	ND	ND	ND
Acenaphthalene	-	NA	NA	NA	130	NA	NA	ND	NA	ND	NA	NA	NA
Acenaphthene	-	NA	NA	NA	16	NA	NA	ND	NA	ND	NA	NA	NA
Acenaphthylene	-	NA	ND	250	NA	NA	ND	NA	NA	NA	ND	ND	ND
Acetone	-	ND	NA	NA	ND	ND	NA	ND	ND	ND	NA	NA	NA

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		R13D (2/26/87)	R13D/G13D (1988)	R13S (1988)	G13S (12/13/93)	R105 (2/26/87)	R105 (1988)	R105 (12/13/93)	R106 (2/26/87)	R106 (12/13/93)	G11B (1988)	G13B (1988)	G105B (1988)
Acetonitrile	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Aliphatic acid esters	-	ND	NA	NA	NA	15	NA	NA	ND	NA	NA	NA	NA
Aliphatic acids	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aliphatic alcohols	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Aliphatic hydrocarbons	-	70	NA	NA	NA	30	NA	NA	90	NA	NA	NA	NA
Anthracene	-	NA	NA	NA	39	NA	NA	ND	NA	ND	NA	NA	NA
Benzene	5	ND	ND	340	240	ND	ND	5	ND	ND	ND	ND	ND
Benzo(a)anthracene	-	NA	NA	NA	16	NA	NA	ND	NA	ND	NA	NA	NA
Benzo(a)pyrene	0.2	NA	NA	NA	10	NA	NA	ND	NA	ND	NA	NA	NA
Benzo(b)fluoranthene	-	NA	NA	NA	9	NA	NA	ND	NA	ND	NA	NA	NA
Benzo(k)fluoranthene	-	NA	NA	NA	10	NA	NA	ND	NA	ND	NA	NA	NA
bis(2-Ethylhexyl)phthalate	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
C-3 substituted benzene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C-4 substituted benzene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Chrysene	-	NA	NA	NA	17	NA	NA	ND	NA	ND	NA	NA	NA
Cyclohexane	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Dibenzofuran	-	NA	NA	NA	71	NA	NA	ND	NA	ND	NA	NA	NA
Dieldrin	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Diethylphthalate	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Dimethoxymethane	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Di-n-butylphthalate	-	NA	NA	NA	3	NA	NA	5	NA	ND	NA	NA	NA
Ethyl ether	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	19	NA	NA	ND	NA	ND	NA	NA	NA
Fluoranthene	-	NA	NA	NA	61	NA	NA	ND	NA	ND	NA	NA	NA

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		R13D (2/26/87)	R13D/G13D (1988)	R13S (1988)	G13S (12/13/93)	R105 (2/26/87)	R105 (1988)	R105 (12/13/93)	R106 (2/26/87)	R106 (12/13/93)	G11B (1988)	G13B (1988)	G105B (1988)
Flourene	-	NA	ND	130	61	NA	ND	ND	NA	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	-	NA	NA	NA	5	NA	NA	ND	NA	ND	NA	NA	NA
Isophorone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropyl ether	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxy aliphatic acid esters	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxymethylethoxy methylethoxy propanol	-	40	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Methyl cyclopentanol	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Methyl dioxolane	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Methyl pentanediol	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Methyl phenols	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylethoxy propanol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylethoxymethoxy propano	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Naphthalene	-	30	ND	6,000	7,000	ND	ND	ND	ND	ND	ND	ND	ND
Other organic compounds	-	60	NA	NA	NA	20	NA	NA	20	NA	NA	NA	NA
Oxepane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	-	30	ND	170	150	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	-	NA	ND	740	180	NA	ND	ND	NA	ND	ND	ND	ND
Propyl ester	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Pyrene	-	NA	NA	NA	43	NA	NA	ND	NA	ND	NA	NA	NA
Styrene	100	NA	ND	92	66	NA	ND	ND	NA	ND	ND	ND	ND
Tetrachloroethylene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	-	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA
Tetrahydro-2-methyl-2-furanol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	ND	ND	310	220	ND	ND	ND	ND	ND	ND	ND	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)											
		R13D (2/26/87)	R13D/G13D (1988)	R13S (1988)	G13S (12/13/93)	R105 (2/26/87)	R105 (1988)	R105 (12/13/93)	R106 (2/26/87)	R106 (12/13/93)	G11B (1988)	G13B (1988)	G105B (1988)
Trichloroethylene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	-	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	NA
Xylene	10,000	NA	ND	340	280	NA	ND	ND	NA	ND	ND	ND	ND

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)						
		G130B (1988)	G19S (12/13/93)	G20S (12/13/93)	G22S (12/13/93)	G24S (12/13/93)	G25F (12/13/93)	G25FDL (12/13/93)
Inorganic Analytes								
Aluminum	-	NA	ND	ND	ND	ND	NS	NS
Antimony	6	NA	ND	ND	ND	ND	NS	NS
Arsenic	50	NA	ND	4.9	ND	ND	NS	NS
Barium	2,000	230	1,300	330	740	620	NS	NS
Beryllium	4	NA	ND	ND	ND	ND	NS	NS
Boron	-	1,640	NA	NA	NA	NA	NS	NS
Cadmium	5	ND	ND	ND	ND	ND	NS	NS
Calcium	-	NA	278,000	98,900	101,000	46,300	NS	NS
Chromium	100	13.7	ND	9.8	18	12	NS	NS
Cobolt	-	NA	13	7.2	13	18	NS	NS
Copper	1,300	ND	8.6	75	ND	16	NS	NS
Cyanide, Total	200	NA	160	8	6.1	NA	NS	NS
Iron	-	NA	540	1,100	1,000	980	NS	NS
Lead	15	5	ND	ND	2.4	9.1	NS	NS
Magnesium	-	1,030	130,000	222,000	305,000	151,000	NS	NS
Manganese	-	26.8	190	150	47	56	NS	NS
Mercury	2	ND	ND	ND	ND	ND	NS	NS
Nickel	-	ND	46	790	ND	110	NS	NS
Potassium	-	NA	88,800	141,000	320,000	374,000	NS	NS
Selenium	50	NA	ND	ND	ND	ND	NS	NS
Silver	-	NA	ND	ND	ND	ND	NS	NS
Sodium	-	NA	721,000	1,230,000	1,380,000	1,960,000	NS	NS
Thallium	2	NA	ND	ND	ND	ND	NS	NS
Vanadium	-	ND	5	7	20	ND	NS	NS
Zinc	-	19.9	100	80	100	170	NS	NS

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)						
		G130B (1988)	G19S (12/13/93)	G20S (12/13/93)	G22S (12/13/93)	G24S (12/13/93)	G25F (12/13/93)	G25FDL (12/13/93)
Organic Compounds								
1,1,1-Trichloroethane	200	ND	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	-	NA	ND	ND	ND	ND	37	ND
1,2-Dichloroethylene	100	NA	ND	ND	ND	ND	18	ND
1,2-Dichloropropane	5	NA	ND	ND	ND	ND	10	ND
1,2-Diethoxyethane	-	NA	NA	NA	NA	NA	NA	NA
1,3,6-Trioxocane	-	NA	NA	NA	NA	NA	NA	NA
1,3,9-Trioxocane	-	NA	NA	NA	NA	NA	NA	NA
1,3-Dioxolane	-	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	NA	ND	ND	ND	8	NA	NA
2,4-Dimethylphenol	-	ND	ND	ND	ND	ND	NA	NA
2-Butanone	-	ND	ND	ND	ND	ND	14,000	15,000
2-Ethyl-4-methyl-1,3-dioxolone	-	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	-	NA	ND	ND	ND	ND	20	ND
2-Methyl-2-propanol	-	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	-	ND	ND	ND	ND	ND	NA	NA
2-Methylphenol	-	ND	ND	ND	ND	ND	NA	NA
3-Methyl-2-butanone	-	NA	NA	NA	NA	NA	NA	NA
4,4' -DDE	-	NA	ND	ND	ND	0.07	NA	NA
4-Methyl-1,3-dioxolane	-	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	-	NA	ND	ND	ND	ND	1,200	1,200
4-Methylphenol	-	120	ND	ND	ND	ND	NA	NA
Acenaphthalene	-	NA	ND	ND	ND	26	NA	NA
Acenaphthene	-	NA	ND	ND	ND	3	NA	NA
Acenaphthylene	-	ND	NA	NA	NA	NA	NA	NA
Acetone	-	NA	ND	ND	ND	ND	13,000	22,000



Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)						
		G130B (1988)	G19S (12/13/93)	G20S (12/13/93)	G22S (12/13/93)	G24S (12/13/93)	G25F (12/13/93)	G25FDL (12/13/93)
Acetonitrile	-	NA	NA	NA	NA	NA	NA	NA
Aliphatic acid esters	-	NA	NA	NA	NA	NA	NA	NA
Aliphatic acids	-	NA	NA	NA	NA	NA	NA	NA
Aliphatic alcohols	-	NA	NA	NA	NA	NA	NA	NA
Aliphatic hydrocarbons	-	NA	NA	NA	NA	NA	NA	NA
Anthracene	-	NA	ND	ND	ND	2	NA	NA
Benzene	5	ND	ND	ND	ND	21	70	ND
Benzo(a)anthracene	-	NA	ND	ND	ND	ND	NA	NA
Benzo(a)pyrene	0.2	NA	ND	ND	ND	ND	NA	NA
Benzo(b)fluoranthene	-	NA	ND	ND	ND	ND	NA	NA
Benzo(k)fluoranthene	-	NA	ND	ND	ND	ND	NA	NA
bis(2-Ethylhexyl)phthalate	-	NA	ND	ND	ND	37	NA	NA
C-3 substituted benzene	-	NA	NA	NA	NA	NA	NA	NA
C-4 substituted benzene	-	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	NA	ND	ND	ND	100	ND	ND
Chrysene	-	NA	ND	ND	ND	ND	NA	NA
Cyclohexane	-	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	-	NA	ND	ND	ND	ND	NA	NA
Dieldrin	-	NA	ND	ND	ND	0.07	NA	NA
Diethylphthalate	-	NA	ND	ND	ND	ND	NA	NA
Dimethoxymethane	-	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	-	NA	ND	ND	ND	ND	NA	NA
Ethyl ether	-	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	ND	ND	ND	68	170	ND
Flouranthene	-	NA	ND	ND	ND	ND	NA	NA

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)						
		G130B (1988)	G19S (12/13/93)	G20S (12/13/93)	G22S (12/13/93)	G24S (12/13/93)	G25F (12/13/93)	G25FDL (12/13/93)
Flourene	-	ND	ND	ND	ND	4	NA	NA
Indeno(1,2,3-cd)pyrene	-	NA	ND	ND	ND	ND	NA	NA
Isophorone	-	NA	NA	NA	NA	NA	NA	NA
Isopropyl ether	-	NA	NA	NA	NA	NA	NA	NA
Methoxy aliphatic acid esters	-	NA	NA	NA	NA	NA	NA	NA
Methoxymethylethoxy methylethoxy propanol	-	NA	NA	NA	NA	NA	NA	NA
Methyl cyclopentanol	-	NA	NA	NA	NA	NA	NA	NA
Methyl dioxolane	-	NA	NA	NA	NA	NA	NA	NA
Methyl pentanediol	-	NA	NA	NA	NA	NA	NA	NA
Methyl phenols	-	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	-	NA	NA	NA	NA	NA	NA	NA
Methylethoxy propanol	-	NA	NA	NA	NA	NA	NA	NA
Methylethoxymethoxy propanol	-	NA	NA	NA	NA	NA	NA	NA
Naphthalene	-	ND	ND	ND	ND	75	NA	NA
Other organic compounds	-	NA	NA	NA	NA	NA	NA	NA
Oxepane	-	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	-	ND	ND	ND	ND	4	NA	NA
Phenol	-	35	ND	ND	ND	ND	NA	NA
Propyl ester	-	NA	NA	NA	NA	NA	NA	NA
Pyrene	-	NA	ND	ND	ND	ND	NA	NA
Styrene	100	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	5	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	-	NA	NA	NA	NA	NA	NA	NA
Tetrahydro-2-methyl-2-furanol	-	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	ND	ND	ND	ND	7	1,100	1,300

Table A-1

**HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)						
		G130B (1988)	G19S (12/13/93)	G20S (12/13/93)	G22S (12/13/93)	G24S (12/13/93)	G25F (12/13/93)	G25FDL (12/13/93)
Trichloroethylene	5	NA	NA	NA	NA	NA	NA	NA
Vinyl acetate	-	NA	ND	ND	ND	ND	56	ND
Xylene	10,000	ND	ND	ND	ND	240	660	760

**Key:**

µg/L	=	Micrograms per liter.
NPDWR	=	National Primary Drinking Water Regulations.
MCL	=	Maximum contaminant level.
1988	=	Data from 1988 Weston site investigation.
12/13/93	=	Data from Harza sample event.
-	=	Value not established.
NA	=	Not analyzed.
ND	=	Not detected.
NS	=	Not sampled.

**Note:**

1. G19S is background sample for Harza sample event.
2. Shaded cell represents instances of parameter concentration exceeding standard.

**Sources:**

Illinois Environmental Protection Agency, May 11, 1986, Memorandum to Division File, 0316000033.  
 Illinois Environmental Protection Agency, May 5, 1987, Memorandum to Division File, 0316000033.  
 Black & Veatch Waste Science, Inc., July 14, 1995, Expanded Site Inspection.

Table A-2

**HISTORICAL LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)						
		LP-1 (1988)	LP-2 (1988)	LP-3 (1988)	LP-4 (1988)	SW07 (12/13/93)	SW08 (12/13/93)	SW09 (12/13/93)
Inorganic Analytes								
Barium	2,000	457	457	800	558	NA	NA	NA
Beryllium	4	2.5	ND	ND	ND	NA	NA	NA
Boron	-	4,140	3,420	17,200	3,100	NA	NA	NA
Cadmium	5	ND	ND	27.8	25.8	NA	NA	NA
Chromium	100	ND	20	98.4	28.7	NA	316	168
Cobolt	-	NA	NA	NA	NA	28.3	37.3	14.4
Copper	1,300	ND	48.2	220	51.6	NA	NA	NA
Lead	15	28	138	338	90	NA	NA	NA
Magnesium	-	98,500	15,000	368,000	402,000	405,000	156,000	350,000
Manganese	-	267	492	1,250	937	289	195	180
Mercury	2	ND	ND	0.48	ND	NA	NA	NA
Nickel	-	104	217	283	100	164	236	108
Potassium	-	NA	NA	NA	NA	1,790,000	1,430,000	8,580,000
Sodium	-	NA	NA	NA	NA	4,330,000	5,090,000	17,400,000
Vanadium	-	ND	ND	53.5	ND	19.6	75.3	61.2
Zinc	-	43	571	1,780	171	NA	NA	NA
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	200	5	6	ND	10	NA	NA	NA
1,2-Dichloroethene	100	ND	84	7	ND	NA	NA	NA
2-Butanone	-	24	21	160	130	NA	290	NA
2-Hexanone	-	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	-	ND	ND	26	29	NA	NA	NA
4-Methylphenol	-	ND	70	60	ND	NA	NA	NA
Acetone	-	NA	NA	NA	NA	NA	190	1,100
Benzene	5	ND	15	100	ND	NA	NA	NA
Chlorobenzene	100	ND	7	ND	ND	NA	NA	NA
Chloroethane	-	ND	ND	29	ND	110	NA	NA
Ethylbenzene	700	5	91	44	8	NA	380	NA
Phenol	-	ND	1,200	ND	87	NA	NA	NA
Tetrachloroethene	5	ND	28	ND	5	NA	NA	NA
Toluene	1,000	ND	380	190	19	NA	310	170
Trichloroethene	5	ND	10	ND	ND	NA	NA	NA
Xylene	10,000	NA	460	150	29	NA	1,400	NA

**Key:**

µg/L = Micrograms per liter.  
 NPDWR = National Primary Drinking Water Regulations.  
 MCL = Maximum contaminant level.  
 1988 = Data from 1988 Roy F. Weston site investigation.

12/13/93 = Data from Harza sample event.  
 NA = Not analyzed.  
 ND = Not detected.  
 - = Value not established.

**Note:**

Shaded cells represents instances of parameter concentration exceeding standard.

Source: Black & Veatch Waste Science, Inc., July 14, 1995, Expanded Site Inspection.

Table A-3

**ANALYTICAL RESULTS FOR SOIL AND SEDIMENT SAMPLES  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS  
DECEMBER 13, 1993**

Units - µg/kg

Parameter	U.S. EPA Region 3 RBC, Ingestion	Sample Designation								
		ST01	ST02	ST03	ST04	ST05	ST06	ST07	ST08	ST10
Inorganic Analytes										
Aluminum	1,000,000,000	10,200,000	7,730,000	10,100,000	10,300,000	5,340,000	12,300,000	7,820,000	7,310,000	10,200,000
Antimony	820,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	610,000	9,200	8,100	8,100	6,700	12,600	16,000	28,300	5,300	8,400
Barium	140,000,000	81,500	66,800	61,200	65,100	124,000	51,400	74,500	4,600	64,700
Beryllium	1,300	740	600	600	550	960	730	1,000	390	460
Cadmium	1,000,000	1,200	970	1,600	ND	ND	ND	ND	ND	ND
Calcium	-	62,800,000	60,000,000	62,900,000	61,200,000	13,000,000	58,000,000	60,900,000	55,900,000	61,400,000
Chromium	10,000,000	23,100	22,200	23,400	23,500	28,300	21,000	33,100	15,000	22,300
Cobolt	120,000,000	12,000	11,900	9,600	11,800	7,500	11,600	7,200	8,300	11,300
Copper	82,000,000	48,700	39,400	37,500	38,400	130,000	26,200	31,600	24,300	37,600
Cyanide, Total	41,000,000	NA	4,700	7,400	6,600	9,900	1,400	3,200	1,100	4,800
Iron	610,000,000	21,600,000	18,700,000	22,200,000	21,800,000	33,200,000	12,600,000	18,200,000	15,300,000	22,100,000
Lead	400,000	105,000	88,500	92,300	75,500	206,000	31,600	68,400	63,900	73,100
Magnesium	-	31,900,000	29,400,000	31,500,000	29,800,000	4,170,000	28,600,000	26,300,000	30,100,000	31,000,000
Manganese	10,000,000	634,000	714,000	600,000	575,000	238,000	400,000	888,000	371,000	531,000
Mercury	610,000	NA	ND	ND	ND	ND	ND	ND	210	ND
Nickel	41,000,000	31,800	27,600	24,000	29,300	31,100	27,600	19,900	22,000	27,900
Potassium	-	2,870,000	1,990,000	3,100,000	3,170,000	716,000	3,680,000	1,690,000	2,060,000	2,910,000
Selenium	10,000,000	ND	ND	530	1,200	3,200	ND	ND	ND	ND
Silver	10,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	-	202,000	171,000	279,000	267,000	291,000	215,000	248,000	257,000	218,000
Thallium	-	560	560	480	650	650	580	630	330	710
Vanadium	14,000,000	24,100	20,200	24,800	27,500	25,700	25,600	20,400	17,700	24,300
Zinc	610,000,000	108,000	102,000	97,300	101,000	484,000	57,500	153,000	69,100	97,900
Volatile Organic Compounds (VOCs)										
Acetone	200,000,000	ND	ND	ND	61	200	ND	31	ND	ND
1,2-Dichloroethene (Total)	20,000,000	ND	ND	ND	ND	ND	ND	ND	ND	11
Tetrachloroethene	110,000	ND	7	ND	12	ND	ND	ND	ND	ND

Table A-3

**ANALYTICAL RESULTS FOR SOIL AND SEDIMENT SAMPLES  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS  
DECEMBER 13, 1993**

Units - µg/kg

Parameter	U.S. EPA Region 3 RBC, Ingestion	Sample Designation								
		ST01	ST02	ST03	ST04	ST05	ST06	ST07	ST08	ST10
Semivolatile Organic Compounds (SVOCs)										
2-Methylnaphthalene	82,000,000	ND	ND	ND	ND	370	ND	ND	ND	ND
Acenaphthene	120,000,000	190	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	-	ND	ND	ND	ND	390	ND	ND	ND	ND
Anthracene	610,000,000	530	1,100	360	440	400	ND	230	270	280
Benzo(g,h,i)perylene	-	ND	1,500	760	1,000	1,200	ND	700	620	630
Benzo(a)anthracene	7,800	1,700	3,600	1,200	1,500	1,100	ND	780	920	970
Benzo(a)pyrene	780	1,600	3,200	1,100	1,500	1,300	ND	640	930	910
Benzo(b)fluoranthene	7,800	2,200	4,500	1,400	2,000	2,100	ND	980	1,200	1,300
Benzo(k)fluoranthene	78,000	830	2,000	560	620	730	ND	370	320	510
bis(2-ethylhexyl)phthalate	410,000	710	ND	280	480	ND	ND	ND	ND	510
Butylbenyl phthalate	410,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	290,000	210	ND	ND	ND	ND	ND	ND	ND	ND
Crysene	780,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	780	1,300	ND	190	270	ND	ND	210	190	ND
Dibenzofuran	8,200,000	ND	ND	ND	ND	370	ND	ND	ND	ND
Fluoranthene	82,000,000	2,200	6,900	2,000	2,300	1,800	260	1,100	1,100	1,400
Fluorene	82,000,000	250	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7,800	1,600	1,700	840	1,200	1,300	ND	920	830	740
Naphthalene	82,000,000	ND	ND	ND	ND	1,000	ND	230	ND	ND
Phenanthrene	-	2,000	4,400	1,500	1,700	1,300	270	960	960	1,100
Pyrene	61,000,000	4,500	8,500	2,800	3,600	2,500	310	1,800	2,100	2,900
Pesticides/Polychlorinated biphenyls										
4,4'-DDD	24,000	14	11	21	18	31	ND	10	ND	7.6
4,4'-DDE	17,000	8.6	12	10	11	42	ND	6.6	3.7	6.7
4,4'-DDT	17,000	12	39	20	14	62	ND	6.9	5.6	6.9
alpha-Chlordane	4,400	2.3	7.5	2.9	2.8	8	ND	2.1	1.9	2.2
Aroclor-1242	-	47	65	47	64	ND	ND	ND	ND	ND
Aroclor-1254	1,000	50	70	91	61	94	ND	49	ND	73
Aroclor-1260	-	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table A-3

**ANALYTICAL RESULTS FOR SOIL AND SEDIMENT SAMPLES  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS  
DECEMBER 13, 1993**

Units - µg/kg

Parameter	U.S. EPA Region 3 RBC, Ingestion	Sample Designation								
		ST01	ST02	ST03	ST04	ST05	ST06	ST07	ST08	ST10
delta-BHC	4,400	ND	ND	ND	ND	6.5	ND	ND	ND	ND
Dieldrin	360	ND	ND	3.2	ND	ND	ND	ND	ND	3.1
Endrin ketone	-	16	ND	10	8	20	ND	ND	11	7
gamma-Chlordane	4,400	ND	5.5	4.3	1.9	3.3	ND	ND	2.4	4
Methoxychlor	10,000,000	53	40	20	27	54	ND	6.9	29	15

Table A-3

**ANALYTICAL RESULTS FOR SOIL AND SEDIMENT SAMPLES  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS  
DECEMBER 13, 1993**

Units -  $\mu\text{g/kg}$ 

Parameter	U.S. EPA Region 3 RBC, Ingestion	Sample Designation			
		SS01	SS02	SS04	SS05
Inorganic Analytes					
Aluminum	1,000,000,000	9,170,000	8,360,000	10,200,000	10,300,000
Antimony	820,000	ND	ND	ND	ND
Arsenic	610,000	9,400	5,500	6,800	6,700
Barium	140,000,000	69,500	71,400	66,000	125,000
Beryllium	1,300	340	390	880	530
Cadmium	1,000,000	ND	ND	ND	910
Calcium	-	88,800,000	116,000,000	48,900,000	158,000,000
Chromium	10,000,000	1,140,000	786,000	26,520	696,000
Cobolt	120,000,000	14,900	9,800	12,400	7,800
Copper	82,000,000	191,000	84,500	40,500	50,200
Cyanide, Total	41,000,000	1,900	830	ND	15,800
Iron	610,000,000	128,000,000	90,900,000	22,800,000	57,300,000
Lead	400,000	801,000	162,000	81,000	268,000
Magnesium	-	42,800,000	25,500,000	23,300,000	15,300,000
Manganese	10,000,000	10,200,000	14,800,000	715,000	26,900,000
Mercury	610,000	ND	150	ND	ND
Nickel	41,000,000	138,000	36,000	27,500	19,600
Potassium	-	392,000	826,000	2,520,000	1,310,000
Selenium	10,000,000	ND	ND	440	ND
Silver	10,000,000	390	ND	ND	ND
Sodium	-	261,000	652,000	613,000	739,000
Thallium	-	ND	2,000	ND	5,800
Vanadium	14,000,000	156,000	222,000	21,600	187,000
Zinc	610,000,000	123,000	114,000	107,000	473,000
Volatile Organic Compounds (VOCs)					
Acetone	200,000,000	NA	NA	NA	NA
1,2-Dichloroethene (Total)	20,000,000	NA	NA	NA	NA
Tetrachloroethene	110,000	NA	NA	NA	NA



Table A-3

**ANALYTICAL RESULTS FOR SOIL AND SEDIMENT SAMPLES  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS  
DECEMBER 13, 1993**

Units - µg/kg

Parameter	U.S. EPA Region 3 RBC, Ingestion	Sample Designation			
		SS01	SS02	SS04	SS05
Semivolatile Organic Compounds (SVOCs)					
2-Methylnaphthalene	82,000,000	160	97	68	83
Acenaphthene	120,000,000	200	49	35	74
Acenaphthylene	-	68	28	ND	57
Anthracene	610,000,000	410	120	37	130
Benzo(g,h,i)perylene	-	850	480	180	1,200
Benzo(a)anthracene	7,800	2,200	720	390	780
Benzo(a)pyrene	780	1,500	490	220	590
Benzo(b)fluoranthene	7,800	3,800	1,500	750	1,500
Benzo(k)fluoranthene	78,000	NA	NA	NA	NA
bis(2-ethylhexyl)phthalate	410,000	NA	NA	NA	NA
Butylbenyl phthalate	410,000,000	ND	120	ND	ND
Carbazole	290,000	200	ND	ND	98
Crysene	780,000	1,700	600	290	740
Dibenzo(a,h)anthracene	780	250	220	ND	320
Dibenzofuran	8,200,000	240	91	50	63
Fluoranthene	82,000,000	3,100	940	550	1,200
Fluorene	82,000,000	170	52	ND	71
Indeno(1,2,3-cd)pyrene	7,800	890	180	61	970
Naphthalene	82,000,000	ND	110	45	130
Phenanthrene	-	1,900	690	380	770
Pyrene	61,000,000	3,400	1,000	550	2,100
Pesticides/Polychlorinated biphenyls					
4,4'-DDD	24,000	ND	ND	ND	ND
4,4'-DDE	17,000	ND	ND	ND	ND
4,4'-DDT	17,000	ND	ND	ND	ND
alpha-Chlordane	4,400	ND	ND	ND	ND
Aroclor-1242	-	ND	ND	ND	ND
Aroclor-1254	1,000	ND	ND	ND	ND
Aroclor-1260	-	ND	65	ND	ND

Table A-3					
ANALYTICAL RESULTS FOR SOIL AND SEDIMENT SAMPLES					
PAXTON LANDFILL SITE					
CHICAGO, COOK COUNTY, ILLINOIS					
DECEMBER 13, 1993					
Units - µg/kg					
Parameter	U.S. EPA Region 3 RBC, Ingestion	Sample Designation			
		SS01	SS02	SS04	SS05
delta-BHC	4,400	ND	ND	ND	ND
Dieldrin	360	ND	ND	ND	ND
Endrin ketone	-	ND	ND	ND	ND
gamma-Chlordane	4,400	ND	ND	ND	ND
Methoxychlor	10,000,000	ND	ND	ND	ND

**Key:**

µg/kg	=	Micrograms per kilogram.
U.S. EPA	=	United States Environmental Protection Agency.
RBC, Ingestion	=	Risk-based concentration for soil ingestion, industrial limit.
-	=	Value not established.
NA	=	Not analyzed.
ND	=	Not detected.

**Notes:**

1. ST05 is background sediment sample.
2. SS05 is background soil sample.

**Source:** Black & Veatch Waste Science, Inc., July 14, 1995, Expanded Site Inspection.

## **Appendix B**

### **Maximum Historical Groundwater Analytical Results**

Table B-1

**MAXIMUM HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	August 21, 1985		February 26, 1987		1988		December 13, 1993	
		Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration
Inorganic Analytes									
Antimony	6	NA	NA	NA	NA	NA	NA	G16S	32
Arsenic	50	NA	NA	NA	NA	NA	NA	R10S	5.8
Barium	2,000	NA	NA	NA	NA	G11B	1,060	NA	NA
Boron	-	NA	NA	NA	NA	G124	8,800	NA	NA
Cadmium	5	NA	NA	NA	NA	G13D	19.5	NA	NA
Chromium	100	NA	NA	NA	NA	G11B	110	G16S	38
Copper	1,300	NA	NA	NA	NA	G17S	85.5	G20S	75
Iron	-	NA	NA	NA	NA	NA	NA	G16S	2,600
Lead	15	NA	NA	NA	NA	G11S	158	G13S	9.6
Magnesium	-	NA	NA	NA	NA	G13D	277,000	G16S	421,000
Manganese	-	NA	NA	NA	NA	G17S	2,160	NA	NA
Mercury	2	NA	NA	NA	NA	G13S	1.6	NA	NA
Nickel	-	NA	NA	NA	NA	G17S	314	G20S	790
Potassium	-	NA	NA	NA	NA	NA	NA	G16S	456,000
Sodium	-	NA	NA	NA	NA	NA	NA	G16S	2,590,000
Thallium	2	NA	NA	NA	NA	NA	NA	G16S	9.8
Vanadium	-	NA	NA	NA	NA	G17S	134	G16S	29
Zinc	-	NA	NA	NA	NA	G17S	428	NA	NA
Organic Compounds									
1,1,1-Trichloroethane	200	NA	NA	NA	NA	G17S	44	NA	NA
1,1-Dichloroethane		G12S	230	NA	NA	NA	NA	NA	NA
1,2-Dichloroethylene	100	G15S	2,500	NA	NA	NA	NA	NA	NA
1,2-Diethoxyethane	-	G16S	120	NA	NA	NA	NA	NA	NA
1,3,6-Trioxocane	-	G18S	380	G18S	120	NA	NA	NA	NA
1,3,9-Trioxocane	-	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dioxolane	-	G18S	140	G18S	30	NA	NA	NA	NA
2,4-Dimethylphenol	-	NA	NA	NA	NA	G13S	970	G13S	640

Table B-1

**MAXIMUM HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	August 21, 1985		February 26, 1987		1988		December 13, 1993	
		Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration
2-Butanone	-	NA	NA	NA	NA	G13B	10	NA	NA
2-Ethyl-4-methyl-1,3-dioxolone	-	G18S	420	NA	NA	NA	NA	NA	NA
2-Methyl-2-propanol	-	NA	NA	G13D	20	NA	NA	NA	NA
2-Methylnaphthalene	-	NA	NA	NA	NA	G13S	260	G13S	590
2-Methylphenol	-	NA	NA	NA	NA	G13S	1,400	G13S	290
3-Methyl-2-butanone	-	G18S	630	NA	NA	NA	NA	NA	NA
4,4'-DDE	-	NA	NA	NA	NA	NA	NA	G24S	0.07
4-Methyl-1,3-dioxolane	-	G124	90	NA	NA	NA	NA	NA	NA
4-Methylphenol	-	NA	NA	NA	NA	G13S	980	G13S	340
Acenaphthalene	-	NA	NA	NA	NA	NA	NA	G13S	130
Acenaphthene	-	NA	NA	NA	NA	NA	NA	G13S	16
Acenaphthylene	-	NA	NA	NA	NA	G13S	250	NA	NA
Acetone	-	G15S	96,000	G15S	140	NA	NA	NA	NA
Acetonitrile	-	NA	NA	G15S	40	NA	NA	NA	NA
Aliphatic acid esters	-	NA	NA	R105	15	NA	NA	NA	NA
Aliphatic acids	-	G15S	23,000	NA	NA	NA	NA	NA	NA
Aliphatic alcohols	-	G12S	16,000	G18S	30	NA	NA	NA	NA
Aliphatic hydrocarbons	-	G12S	59,000	G18S	800	NA	NA	NA	NA
Anthracene	-	NA	NA	NA	NA	NA	NA	G13S	39
Benzene	5	G12S	150	R11D	60	G13S	340	G13S	240
Benzo(a)anthracene	-	NA	NA	NA	NA	NA	NA	G13S	16
Benzo(a)pyrene	0.2	NA	NA	NA	NA	NA	NA	G13S	10
Benzo(k)fluoranthene	-	NA	NA	NA	NA	NA	NA	G13S	10
bis(2-Ethylhexyl)phthalate	-	NA	NA	NA	NA	NA	NA	G24S	37
C-3 substituted benzene	-	G12S	50	NA	NA	NA	NA	NA	NA
C-4 substituted benzene	-	G12S	30	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	G12S	150	NA	NA	NA	NA	G24S	100
Chrysene	-	NA	NA	NA	NA	NA	NA	G13S	17

Table B-1

**MAXIMUM HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	August 21, 1985		February 26, 1987		1988		December 13, 1993	
		Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration
Cyclohexane	-	NA	NA	G15S	530	NA	NA	NA	NA
Dibenzofuran	-	NA	NA	NA	NA	NA	NA	G13S	71
Dieldrin	-	NA	NA	NA	NA	NA	NA	G24S	0.07
Dimethoxymethane	-	G18S	500	G18S	100	NA	NA	NA	NA
Ethyl ether	-	G124	70	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	NA	NA	NA	NA	NA	NA	G24S	68
Flouranthene	-	NA	NA	NA	NA	NA	NA	G13S	61
Flourene	-	NA	NA	NA	NA	G13S	130	G13S	61
Isophorone	-	G15S	360	NA	NA	NA	NA	NA	NA
Isopropyl ether	-	G124	960	NA	NA	NA	NA	NA	NA
Methoxy aliphatic acid esters	-	G12S	67,000	NA	NA	NA	NA	NA	NA
Methoxymethylethoxy methylethoxy propanol	-	NA	NA	G15S	26,000	NA	NA	NA	NA
Methyl cyclopentanol	-	NA	NA	G15S	350	NA	NA	NA	NA
Methyl dioxolane	-	NA	NA	G124	20	NA	NA	NA	NA
Methyl pentanediol	-	NA	NA	G15S	250	NA	NA	NA	NA
Methyl phenols	-	G15S	4,800	NA	NA	NA	NA	NA	NA
Methylene chloride	-	G12S	2,300	NA	NA	NA	NA	NA	NA
Methylethoxy propanol	-	G18S	7,500	NA	NA	NA	NA	NA	NA
Methylethoxymethoxy propanol	-	G18S	750	G15S	1,400	NA	NA	NA	NA
Naphthalene	-	G17S	7	G13D	30	G13S	6,000	G13S	7,000
Other organic compounds	-	G15S	59,000	G18S	6,600	NA	NA	NA	NA
Oxepane	-	G18S	110	NA	NA	NA	NA	NA	NA
Phenanthrene	-	NA	NA	G13D	30	G13S	170	G13S	150
Phenol	-	G15S	1,600	NA	NA	G13S	740	G13S	180
Propyl ester	-	NA	NA	G124	240	NA	NA	NA	NA
Pyrene	-	NA	NA	NA	NA	NA	NA	G13S	43

Table B-1

**MAXIMUM HISTORICAL GROUNDWATER DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	August 21, 1985		February 26, 1987		1988		December 13, 1993	
		Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration	Sample Point	Concentration
Styrene	100	NA	NA	NA	NA	G13S	92	G13S	66
Tetrachloroethylene	5	G12S	30	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	-	G15S	9,600	G18S	6,600	NA	NA	NA	NA
Tetrahydro-2-methyl-2-furanol	-	G18S	450	NA	NA	NA	NA	NA	NA
Toluene	1,000	G12S	4,300	G15S	300	G13S	310	G13S	220
Trichloroethylene	5	G12S	200	NA	NA	NA	NA	NA	NA
Xylene	10,000	G12S	270	NA	NA	G13S	340	G13S	280

**Key:**

µg/L	=	Micrograms per liter.
NPDWR	=	National Primary Drinking Water Regulations.
MCL	=	Maximum contaminant level.
1988	=	Data from 1988 Weston site investigation.
-	=	Value not established.
NA	=	Not analyzed.

**Note:**

Shaded cells represents instances of parameter concentration exceeding standard.

**Sources:**

Illinois Environmental Protection Agency, May 11, 1986, Memorandum to Division File, 0316000033.  
 Illinois Environmental Protection Agency, May 5, 1987, Memorandum to Division File, 031600003.  
 Black & Veatch Waste Science, Inc., July 14, 1995, Expanded Site Inspection.

## **Appendix C**

### **Leachate Analytical Results From Patrick Engineering, Inc.**



Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-1 (4/98)	MH-2 (4/98)	MH-3 (4/98)	MH-4 (4/98)	MH-5 (4/98)	MH-6 (4/98)	MH-7 (4/98)	MH-8 (4/98)	MH-9 (4/98)	MH-10 (4/98)
Inorganic Analytes											
Antimony	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biological oxygen demand (BOD), 5-day	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobolt	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical oxygen demand (COD)	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oil and Grease	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total suspended solids	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-1 (4/98)	MH-2 (4/98)	MH-3 (4/98)	MH-4 (4/98)	MH-5 (4/98)	MH-6 (4/98)	MH-7 (4/98)	MH-8 (4/98)	MH-9 (4/98)	MH-10 (4/98)
Volatile Organic Compounds (VOCs)											
1,1-Dichloroethane	-	ND	ND	22	ND	ND	4.8	4.4	35	ND	ND
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	8.1	ND	ND
1,4-Dichlorobenzene	75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	-	NA	NA	NA	NA	NA	NA	14	NA	NA	NA
2-Butanone	-	ND	7.9	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	-	13	ND	ND	ND	ND	ND	ND	ND	11	ND
4-Methyl-2-Pentanone	-	18	ND	39	ND	6.1	6.6	ND	7.6	ND	ND
4-Nitrophenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	-	61	40	100	ND	52	54	110	ND	53	40
Acrolein	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aliphatic ketone	-	NA	NA	76	24	56	24	NA	32	38	32
Benzene	5	4.1	4.4	100	ND	75	7.7	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	-	ND	ND	ND	100	29	24	ND	84	26	ND
cis-1,2-Dichloroethylene	70	ND	ND	ND	ND	ND	ND	ND	18	ND	ND
Diethyl sulfide	-	NA	NA	NA	NA	NA	NA	NA	19	NA	NA
Diisopropyl ether	-	NA	NA	NA	NA	NA	NA	NA	13	48	27
Dimethylphthalate	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl ether	-	NA	5.5	NA	8.4	NA	65	120	360	16	19
Ethylbenzene	700	21	7.4	ND	ND	64	ND	ND	ND	ND	ND
Isophorone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	-	ND	ND	ND	ND	ND	ND	ND	21	ND	ND
Naphthalene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other VOCs	-	59	70	NA	130	NA	24	180	110	50	87
Oxepene	-	NA	NA	NA	7.6	NA	NA	NA	NA	NA	NA
Phenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydro-2h-pyran	-	NA	160	250	230	100	15	NA	NA	88	78

Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-1 (4/98)	MH-2 (4/98)	MH-3 (4/98)	MH-4 (4/98)	MH-5 (4/98)	MH-6 (4/98)	MH-7 (4/98)	MH-8 (4/98)	MH-9 (4/98)	MH-10 (4/98)
Tetrahydro-2-methyl-2h-pyran	-	NA	NA	65	NA	NA	NA	NA	NA	18	NA
Tetrahydro-2-methylfuran	-	NA	210	170	140	52	NA	14	25	33	30
Tetrahydrofuran	-	140	210	270	220	320	140	190	140	82	77
Tetramethylfuran	-	NA	NA	NA	NA	23	NA	NA	NA	NA	NA
Thiophene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	26	ND	620	ND	39	ND	ND	ND	ND	ND
Trichloroethene	-	ND	ND	ND	ND	ND	ND	ND	5.9	ND	ND
Trichlorofluoromethane	-	ND	ND	ND	ND	ND	ND	8.7	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	11	ND	ND
Xylene	10,000	55	4.8	1,100	ND	300	40	440	30	590	97
Semivolatile Organic Compounds (SVOCs) and Pesticides/PCBs											
2(3h)-benzothaimine	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aliphatic acids	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-BHC	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bisphenol A	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Captan	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Matrabuzin	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P,P'-DDD	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P,P'-DDE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toxicity Characteristic Leaching Procedure (TCLP) Compounds											
Metals											
Arsenic	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-1

LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-1 (4/98)	MH-2 (4/98)	MH-3 (4/98)	MH-4 (4/98)	MH-5 (4/98)	MH-6 (4/98)	MH-7 (4/98)	MH-8 (4/98)	MH-9 (4/98)	MH-10 (4/98)
Barium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs											
2-Butanone	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3- and 4-Methylphenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-1

LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-11 (4/98)	MH-12 (4/98)	MH-12 (1/99)	MH-13 (4/98)	MH-14 (4/98)	MH-15 (4/98)	MH-15 (1/99)	MH-16 (4/98)	MH-17 (4/98)	MH-18 (4/98)
Inorganic Analytes											
Antimony	6	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Arsenic	50	NA	NA	31	NA	NA	NA	32	NA	NA	NA
Barium	2,000	NA	NA	2,290	NA	NA	NA	680	NA	NA	NA
Beryllium	4	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Biological oxygen demand (BOD), 5-day	-	NA	NA	1,700,000	NA	NA	NA	190,000	NA	NA	NA
Boron	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	NA	NA	ND	NA	NA	NA	15	NA	NA	NA
Chloride	-	NA	NA	50,000,000	NA	NA	NA	16,000,000	NA	NA	NA
Chromium	100	NA	NA	295	NA	NA	NA	1,040	NA	NA	NA
Cobolt	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical oxygen demand (COD)	-	NA	NA	10,900,000	NA	NA	NA	8,710,000	NA	NA	NA
Copper	1,300	NA	NA	57	NA	NA	NA	1,120	NA	NA	NA
Cyanide	200	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Lead	15	NA	NA	21	NA	NA	NA	72	NA	NA	NA
Magnesium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Nickel	-	NA	NA	246	NA	NA	NA	254	NA	NA	NA
Oil and Grease	-	NA	NA	ND	NA	NA	NA	681,000	NA	NA	NA
Potassium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	NA	NA	17	NA	NA	NA	ND	NA	NA	NA
Silver	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Sodium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Total suspended solids	-	NA	NA	21,000	NA	NA	NA	128,000	NA	NA	NA
Vanadium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	-	NA	NA	190	NA	NA	NA	246	NA	NA	NA

Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-11 (4/98)	MH-12 (4/98)	MH-12 (1/99)	MH-13 (4/98)	MH-14 (4/98)	MH-15 (4/98)	MH-15 (1/99)	MH-16 (4/98)	MH-17 (4/98)	MH-18 (4/98)
Volatile Organic Compounds (VOCs)											
1,1-Dichloroethane	-	ND	ND	ND	ND	ND	4.6	ND	4	ND	19
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
1,4-Dioxane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	-	460	1,300	NA	ND	ND	ND	NA	ND	ND	ND
2-Hexanone	-	ND	ND	NA	15	12	13	NA	8.7	ND	8.6
4-Methyl-2-Pentanone	-	160	86	NA	ND	7.3	ND	NA	9.3	ND	23
4-Nitrophenol	-	NA	NA	125	NA	NA	NA	ND	NA	NA	NA
Acetone	-	1,200	2,000	NA	ND	120	43	NA	48	ND	ND
Acrolein	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Acrylonitrile	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Aliphatic ketone	-	48	32	NA	11	31	78	NA	39	51	54
Benzene	5	ND	12	76	460	18	6.3	13.7	32	140	150
bis(2-ethylhexyl)phthalate	-	NA	NA	ND	NA	NA	NA	147,000	NA	NA	NA
Chlorobenzene	100	ND	ND	ND	11	5.6	ND	ND	ND	ND	ND
Chloroethane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	44
cis-1,2-Dichloroethylene	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl sulfide	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diisopropyl ether	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Ethyl ether	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	ND	40	34	190	190	ND	14.2	ND	ND	ND
Isophorone	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Methylene chloride	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Other VOCs	-	99	71	NA	30	39	33	NA	NA	NA	NA
Oxepene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	-	NA	NA	1,650	NA	NA	NA	790	NA	NA	NA
Tetrahydro-2h-pyran	-	NA	NA	NA	NA	37	41	NA	21	140	110

Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-11 (4/98)	MH-12 (4/98)	MH-12 (1/99)	MH-13 (4/98)	MH-14 (4/98)	MH-15 (4/98)	MH-15 (1/99)	MH-16 (4/98)	MH-17 (4/98)	MH-18 (4/98)
Tetrahydro-2-methyl-2h-pyran	-	NA	NA	NA	NA	NA	NA	NA	NA	22	NA
Tetrahydro-2-methylfuran	-	NA	NA	NA	NA	17	18	NA	NA	75	53
Tetrahydrofuran	-	20	NA	ND	22	27	NA	ND	78	170	140
Tetramethylfuran	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thiophene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	ND	8.5	43.6	27	4	180	7.7	ND	80	210
Trichloroethene	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	-	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	10,000	ND	ND	NA	NA	NA	NA	NA	500	1,200	ND
<b>Semivolatile Organic Compounds (SVOCs) and Pesticides/PCBs</b>											
2(3h)-benzothaimine	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
4-Methylphenol	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aliphatic acids	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-BHC	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Atrazine	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bisphenol A	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Captan	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Matrabuzin	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P,P'-DDD	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
P,P'-DDE	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Phenol	-	NA	NA	865	NA	NA	NA	ND	NA	NA	NA
Total PCBs	0.5	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
<b>Toxicity Characteristic Leaching Procedure (TCLP) Compounds</b>											
<b>Metals</b>											
Arsenic	-	NA	NA	29	NA	NA	NA	21	NA	NA	NA

Table C-1

LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		MH-11 (4/98)	MH-12 (4/98)	MH-12 (1/99)	MH-13 (4/98)	MH-14 (4/98)	MH-15 (4/98)	MH-15 (1/99)	MH-16 (4/98)	MH-17 (4/98)	MH-18 (4/98)
Barium	-	NA	NA	2,100	NA	NA	NA	ND	NA	NA	NA
Cadmium	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
Chromium	-	NA	NA	289	NA	NA	NA	449	NA	NA	NA
Lead	-	NA	NA	12	NA	NA	NA	ND	NA	NA	NA
Selenium	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
VOCs											
2-Butanone	-	NA	NA	1750	NA	NA	NA	ND	NA	NA	NA
2-Methylphenol	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA
3- and 4-Methylphenol	-	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA



Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		TC-1 (4/98)	MC-1 (4/98)	LC-1 (1/99)	LC-2 (1/99)	LC-3 (1/99)	LC-4 (1/99)	P-1 (1/99)	P-4 (1/99)	P-7 (1/99)	MH-15FP (1/99)
Inorganic Analytes											
Antimony	6	NA	NA	56	ND	ND	ND	ND	95	126	NA
Arsenic	50	NA	NA	153	26	34	22	61	576	186	NA
Barium	2,000	NA	NA	1,570	1,020	674	1,070	1,090	2,370	5,440	NA
Beryllium	4	NA	NA	7	ND	ND	ND	ND	ND	18	NA
Biological oxygen demand (BOD), 5-day	-	NA	NA	10,900,000	309,000	180,000	309,000	778,000	10,300,000	568,000	189,000
Boron	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	NA	NA	35	ND	ND	ND	6	16	87	NA
Chloride	-	NA	NA	7,500,000	12,500,000	11,000,000	12,500,000	7,500,000	11,000,000	8,500,000	NA
Chromium	100	NA	NA	768	307	588	249	1,550	1,280	1,770	NA
Cobolt	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical oxygen demand (COD)	-	NA	NA	20,400,000	3,140,000	3,530,000	3,110,000	7,630,000	19,100,000	7,460,000	13,500,000
Copper	1,300	NA	NA	222	55	47	66	169	360	1,810	NA
Cyanide	200	NA	NA	ND	ND	ND	ND	ND	ND	140	NA
Lead	15	NA	NA	700	28	ND	23	578	661	4,460	NA
Magnesium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	NA	NA	ND	ND	ND	ND	ND	20	ND	NA
Nickel	-	NA	NA	343	246	311	226	469	370	2,280	NA
Oil and Grease	-	NA	NA	5,000	ND	ND	2,000	2,000	2,000	3,000	0.18
Potassium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	NA	NA	ND	ND	18	ND	19	ND	ND	NA
Silver	-	NA	NA	ND	ND	ND	ND	ND	ND	32	NA
Sodium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	-	NA	NA	86,000	ND	ND	ND	ND	1,230,000	ND	NA
Total suspended solids	-	NA	NA	3,540,000	209,000	27,000	100,000	346,000	2,400,000	9,300,000	4,360,000
Vanadium	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	-	NA	NA	4,930	124	176	114	861	2,100	4,800	NA

Table C-1

LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		TC-1 (4/98)	MC-1 (4/98)	LC-1 (1/99)	LC-2 (1/99)	LC-3 (1/99)	LC-4 (1/99)	P-1 (1/99)	P-4 (1/99)	P-7 (1/99)	MH-15FP (1/99)
Volatile Organic Compounds (VOCs)											
1,1-Dichloroethane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1,4-Dichlorobenzene	75	NA	NA	ND	ND	ND	ND	73	ND	ND	NA
1,4-Dioxane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	-	360	150	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	-	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	-	27	14	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	-	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA
Acetone	-	530	380	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	-	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA
Acrylonitrile	-	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA
Aliphatic ketone	-	42	39	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	5	22	9.2	ND	20.3	105	5.8	ND	ND	36.3	NA
bis(2-ethylhexyl)phthalate	-	NA	NA	ND	ND	ND	ND	617	ND	ND	NA
Chlorobenzene	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Chloroethane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
cis-1,2-Dichloroethylene	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Diethyl sulfide	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diisopropyl ether	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	-	NA	NA	ND	ND	ND	ND	ND	ND	614	NA
Ethyl ether	-	NA	85	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	ND	ND	15.3	9.4	185	ND	27.4	9.5	285	NA
Isophorone	-	NA	NA	ND	ND	ND	ND	ND	ND	66	NA
Methylene chloride	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Naphthalene	-	NA	NA	ND	ND	ND	ND	76	ND	301	NA
Other VOCs	-	55	62	NA	NA	NA	NA	NA	NA	NA	NA
Oxepene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	-	46	ND	17,000	450	560	260	380	67,000	1,350	NA
Tetrahydro-2h-pyran	-	84	89	NA	NA	NA	NA	NA	NA	NA	NA

Table C-1

**LEACHATE DATA**  
**PAXTON LANDFILL SITE**  
**CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		TC-1 (4/98)	MC-1 (4/98)	LC-1 (1/99)	LC-2 (1/99)	LC-3 (1/99)	LC-4 (1/99)	P-1 (1/99)	P-4 (1/99)	P-7 (1/99)	MH-15FP (1/99)
Tetrahydro-2-methyl-2h-pyran	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydro-2-methylfuran	-	49	51	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	-	150	160	ND	ND	ND	ND	ND	ND	ND	NA
Tetramethylfuran	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thiophene	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1,000	140	16	87.4	52.4	374	ND	75.6	116	2,140	NA
Trichloroethene	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Trichlorofluoromethane	-	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	42	NA
Xylene	10,000	160	210	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds (SVOCs) and Pesticides/PCBs											
2(3h)-benzothaimine	-	87	82	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	-	41	66	ND	ND	ND	ND	140	ND	ND	NA
4-Methylphenol	-	54	ND	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	2	0.07	0.05	NA	NA	NA	NA	NA	NA	NA	NA
Aliphatic acids	-	620	250	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-BHC	-	0.02	0.03	ND	ND	ND	ND	ND	ND	ND	NA
Atrazine	3	4.3	6.2	NA	NA	NA	NA	NA	NA	NA	NA
Bisphenol A	-	600	670	NA	NA	NA	NA	NA	NA	NA	NA
Captan	-	0.24	0.18	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.4	0.13	0.16	ND	ND	ND	ND	ND	ND	ND	ND
Matrabuzin	-	0.17	0.16	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	ND	0.15	NA	NA	NA	NA	NA	NA	NA	NA
P,P'-DDD	-	0.02	0.02	ND	ND	ND	ND	ND	ND	ND	NA
P,P'-DDE	-	0.04	ND	ND	ND	ND	ND	ND	ND	ND	NA
Phenol	-	46	ND	8,780	ND	ND	ND	ND	21,600	148	NA
Total PCBs	0.5	0.54	0.51	ND	ND	ND	ND	ND	ND	ND	NA
Toxicity Characteristic Leaching Procedure (TCLP) Compounds											
Metals											
Arsenic	-	NA	NA	97	16	20	16	50	492	40	13

Table C-1

**LEACHATE DATA  
PAXTON LANDFILL SITE  
CHICAGO, COOK, COUNTY, ILLINOIS**

Units - µg/L

Parameter	NPDWR MCL	Sample Designation (sample date)									
		TC-1 (4/98)	MC-1 (4/98)	LC-1 (1/99)	LC-2 (1/99)	LC-3 (1/99)	LC-4 (1/99)	P-1 (1/99)	P-4 (1/99)	P-7 (1/99)	MH-15FP (1/99)
Barium	-	NA	NA	ND	ND	ND	ND	ND	1,200	1,500	ND
Cadmium	-	NA	NA	7	ND	ND	ND	8	ND	ND	ND
Chromium	-	NA	NA	441	253	512	207	1,040	747	454	295
Lead	-	NA	NA	32	ND	ND	12	125	ND	26	ND
Selenium	-	NA	NA	ND	ND	ND	ND	16	25	13	ND
VOCs											
2-Butanone	-	NA	NA	1,080	ND	ND	ND	ND	7,230	ND	ND
2-Methylphenol	-	NA	NA	ND	ND	ND	ND	ND	ND	330	ND
3- and 4-Methylphenol	-	NA	NA	3,700	ND	ND	ND	150	17,700	490	ND

**Key:**

µg/L = Micrograms per liter.  
 NPDWR = National Primary Drinking Water Regulations.  
 MCL = Maximum contaminant level.  
 NA = Not analyzed.  
 ND = Not detected.  
 - = Value not established.  
 P,P' = 4,4'.  
 PCBs = Polychlorinated biphenyls.

**Notes:**

1. Sample designations MH are leachate manholes.
2. Sample designations P are leachate piezometers.
3. Sample designations LC, TC and MC are composite samples.
4. Sample designation MH-15-FP is a sample of the free product floating on leachate from the manhole.
5. Shaded cells represents instances of parameter concentration exceeding standard.

**Source:** Patrick Engineering, Inc., data from Paxton Landfill Leachate Characterization/Extraction Study.